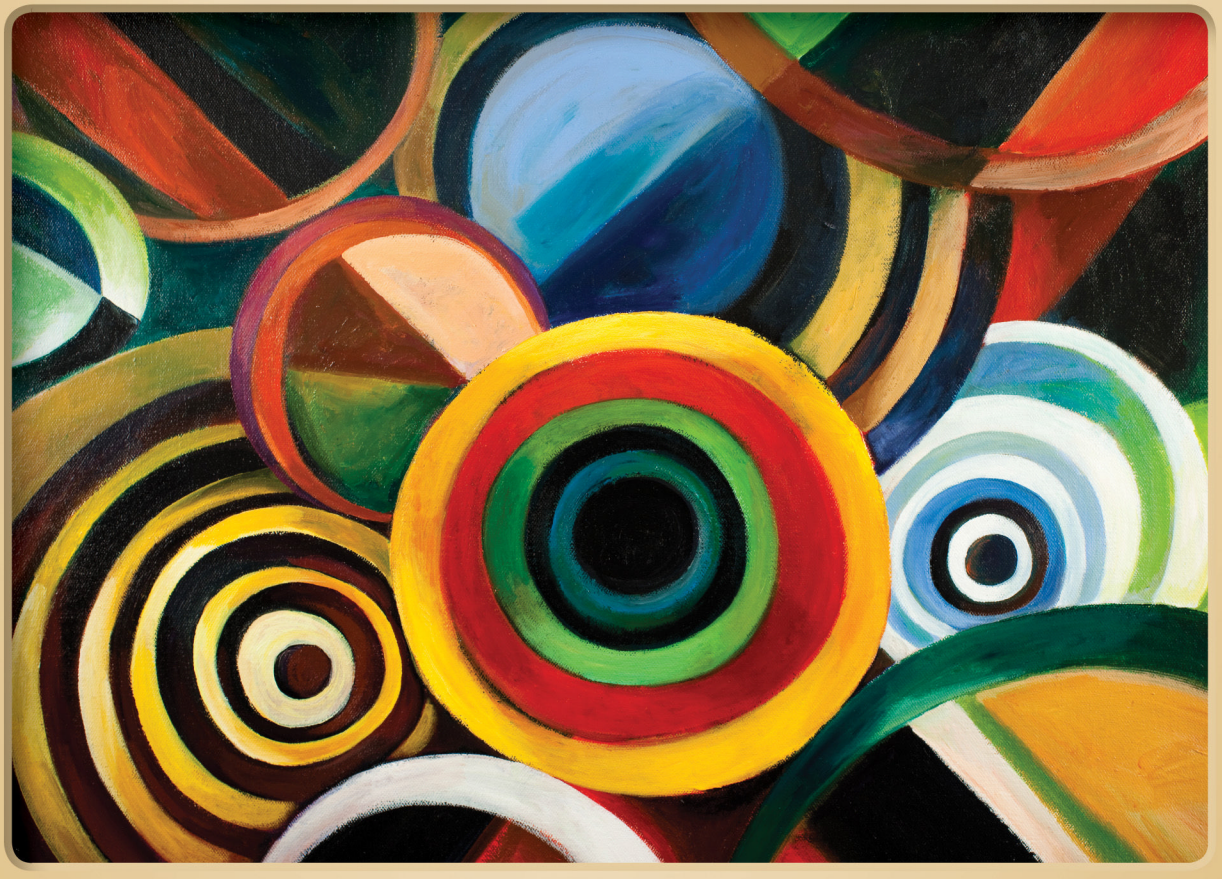
Encyclopedia of EDUCATIONAL THEORY *and* PHILOSOPHY



D. C. PHILLIPS EDITOR

Encyclopedia of

EDUCATIONAL THEORY *and* PHILOSOPHY

Editorial Board

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Edited by

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D. C. Phillips (PhD, University of Melbourne, Australia) is Professor Emeritus of Education, and by courtesy of Philosophy, at Stanford University, where he has also served as Associate Dean for Academic Affairs and Interim Dean of the School of Education. He was a member of the Stanford Evaluation Consortium (directed by Lee J. Cronbach), and for several years he led its training program in evaluation of educational and social programs.

A philosopher of education and philosopher of social science educated in Australia, he is the author, coauthor, or editor of 13 books, which between them have been translated into six languages—titles include *Holistic Thought in Social Science*; *Visions of Childhood: Influential Models From Locke to Spock* (with John Cleverley); *Perspectives on Learning* (five editions, with Jonas Soltis); *Philosophy, Science and Social Inquiry: Contemporary Methodological Controversies in Social Science and Related Applied Fields of Research*; *Toward Reform of Program Evaluation* (with Lee J. Cronbach et al.); *Postpositivism and Educational Research* (with Nicholas Burbules); *The Expanded Social Scientist's Bestiary*; and *Education, Culture, and Epistemological Diversity* (with Claudia Ruitenberg). He was a member of the group that authored the National Research Council report in the United States: *Scientific Research in Education*.

In addition, he is the author of more than 120 essays in books and refereed journals, including *Educational Researcher*, *Harvard Educational Review*, *Educational Psychologist*, *Psychological Review*, *Educational Theory*, *Journal of Philosophy of Education*, *The Monist*, and *Journal of the History of Ideas*. His most heavily cited article, first published in *Educational Researcher*, is "The Good, the Bad, and the Ugly: The Many Faces of Constructivism."

He is a member (emeritus) of the U.S. National Academy of Education and a fellow of the International Academy of Education and of the American Educational Research Association; he also has been a fellow at the Center for Advanced Study in the Behavioral Sciences at Stanford University, and Christensen Fellow at St. Catherine's College, Oxford; and he has been an academic visitor or guest lecturer at numerous universities around the world. He was president of the Philosophy of Education Society during its 50th anniversary year of 1990–1991.

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Introduction

In the justly famous opening speech of Shakespeare's *Henry V*, Chorus confronts the audience with several rhetorical questions: "Can this cockpit hold the vasty fields of France? Or may we cram within this wooden O, the very casques that did affright the air at Agincourt?" Probably not, but we might come close if we exercise our imaginations! As editor of this encyclopedia, I have been faced with a parallel set of questions: Can I cram within these two handsome volumes an account of every theory and philosophical position that has been put forward in the realm of education? And can the accounts that do get included be concise, scholarly, and readable? The answer to the first of these is "certainly not," but the answer to the second, I am confident, is "yes."

It is necessary to linger over the first question and to comment on several factors that make a negative answer inevitable. First, of course, is the sheer volume of potential material; education (either formal or informal) has been a prominent concern of every known human society; and, from at least the time of Confucius in the East and Plato in the West, philosophers and others with inquiring minds have been pondering its role and nature, and reflecting also on matters that are not specifically educational but which have a bearing on it—human rights, the nature of mind, the forces driving and shaping human development from the cradle to the grave, the structure of society, the nature of virtue, the warranting of knowledge claims, and many others. To make matters more difficult (for an editor of an encyclopedia), the philosophical and educational traditions of the East and the West have diverged, and even within geographical regions, there have been philosophical diversification and concomitant misunderstandings (e.g., in the West, Continental philosophy and Anglo-American philosophy have each spawned major schools of thought). Finally, the growth of empirical research into human affairs—which of course includes education and related social phenomena—has, over the past two centuries or so, generated an enormous number of theories, hypotheses, findings, and hitherto unrecognized problems that have been the source of new speculations; and many of these have been potential candidates for inclusion in this encyclopedia.

Clearly, there is no "fail-safe" way to ensure that everything that ought to be included has been included; the hapless encyclopedia editor cannot escape making choices about what should be included and what should be cast aside. However, strenuous efforts have been made to ensure that the contents of these volumes reflect the state of the fields being discussed more than they reflect the ignorance of the editor; these efforts were made in large part by the editorial board (whose members were drawn from Canada, Germany, South Africa, the United Kingdom, and the United States), supplemented by professional colleagues and former students spread across several continents. There can be no disguising the fact, however, that the great personal interest I have had in certain theories and issues in the fields of education and philosophy has left an indelible imprint on the completed encyclopedia.

Unfortunately, the list of heart-wrenching difficulties that faced the editor is not complete. Even worse than the problems presented by the sheer bulk of material that was potentially relevant across the domain of philosophy of education and the other fields where theories have been generated were the problems presented by the three key terms in this encyclopedia's title: "theory," "philosophy," and "education."

The Concept of Education

To start, it needs to be recognized that there is far from full agreement among philosophers of education about how the concept of education itself ought to be understood. John Dewey stressed

that education was "coextensive" with life itself, and he also identified it with growth. Many thinkers working in the Continental philosophical tradition have identified education with a similar but not quite identical concept, "formation" (or *bildung*); some writers treat "education" and "schooling" as synonyms, while others insist that some things that take place in formal schooling are not educational and that some things that are educational take place outside of schools; and many scholars have pointed out that education provides individuals with the skills and knowledge to foster development of their autonomy or rationality, while others point to education's role in developing important social traits such as citizenship. All these matters are discussed at greater length in entries in this encyclopedia. As editor, I did not choose to adjudicate on these matters at the outset and adopted a liberal stance so that relevant topics would not escape the net I was casting.

Selection of the Theories

Next comes the troublesome term *theory* and its operationalization in these volumes (an even more detailed discussion may be found in the entry "Educational Theory, Nature of" in the body of this encyclopedia). The problem that had to be confronted was the variety of usages that exist here. But before discussing these, there is a prior matter that needs to be addressed: There are many topics of educational significance in the encyclopedia that seem at first blush not to involve theories in any sense at all—such as achievement gap, Montessori education, and utopias. However, the first of these names a phenomenon that has been discovered and studied empirically, and about which explanatory theories have been constructed; the second refers to a type of schooling—but one inspired by an educationist whose life's work was certainly motivated by strongly held theories; and the third refers to a category of literary works produced by authors who were strong critics of the society of their times and who usually had political or philosophical theories about the direction in which social change should occur. In short, it takes but little reflection to reveal that theories (in one or other of the term's senses) lie just below the surface of the entry titles.

But to return to the difficulties presented by the various sense of the term *theory*: The first of these, as dictionaries make clear, is what could be called the nontechnical and broadly encompassing ordinary-language sense in which *theory* is roughly synonymous with *assumption*, *guess*, or *hypothesis* (as in "My theory about the outcome of the Presidential election is . . ."). This broad, nontechnical sense of the term is made more difficult to deal with by the fact that the guess or hypothesis might be about things such as the causal mechanisms that are operating in a particular situation, about likely effects or consequences of taking a particular course of action, about policies that might be adopted to remedy a problem, or about the most fruitful way to conceptualize a problem or domain. Education-related examples of these broad uses abound: the theory that declining standards can be dealt with by the use of high-stakes testing; A. S. Neill's theory that the school dropout problem, and refusal to seriously engage with learning, can be combated by making attendance at school classes voluntary; or the theory that a major cause of the dropout problem is alienation.

Second, there is what might be termed a more technical usage—or more accurately, a set of usages—according to which the term refers to theories in the sciences. Caution is called for here, as it must not be assumed that there is one basic form that all scientific theories take, or even that there is a common function that all scientific theories fulfill. The fact is, the structure of theories and the ways in which they interrelate with scientific practice across the various physical, biological, social, and applied sciences are matters that have generated vigorous debate (especially among philosophers of science) for a considerable period of time; some of the key issues will be outlined in the following section.

It must be acknowledged that in pondering the possible contents of this encyclopedia, the decision was taken to use *theory* both in the technical and in the broad ordinary-language senses. For to restrict coverage to theories in a narrower scientific sense would, no doubt, have engendered a comforting sense of rigor, but this would have been achieved at a great cost, namely, the exclusion of many items of intrinsic interest and of great educational significance. Many theories in the broad, nonscientific senses of the term clearly are worthy of inclusion in an encyclopedia; in common with theories in the technical or scientific sense, they serve as lenses that open up educational vistas that we might not have seen—or perhaps could not have seen—without their help. However, it also must be acknowledged that there are other theories (or hypotheses, assumptions, or guesses) that—because they simply reflect human biases, are less well formulated or

supported, or deal with the picayune or with social conditions that no longer exist—are candidates for noninclusion. But as pointed out earlier, there is no algorithm to determine decisions here, and human judgment is fallible.

Mercifully, however, a principle formulated by the publishers at the outset of work on this encyclopedia gave a modicum of guidance and certainly served as a stimulus: "*We aim to produce a reference resource on theories that have stood the test of time and those that have provided the historical foundation for the best of contemporary theory and practice.*" (In fact, this was emblazoned on a large card and placed in clear sight above the editor's desk for the duration of the project.)

It is also worth noting that as this is (in part) an encyclopedia of "theory" and not of "theorists," the policy has been adopted, wherever feasible, of identifying the theory in the title of an entry, rather than using the name of the relevant theorist (these latter can be located via the Index to the volumes). This was not quite as feasible as I had first anticipated, however, for many theories are in fact inseparably associated with the individual who played a key role in formulating them; in such cases, a judgment was made about which label was most commonly used. And names of individuals are more frequently used in the philosophical entries.

Some Issues Concerning Scientific Theories

The preceding discussion signaled that there is variation across the various branches of science with regard to the form that theories can take—a theory in ecology, or Darwin's theory of evolution, does not appear to have a close family resemblance to, say, Einstein's general theory of relativity or the kinetic theory of gases. For many decades, if not centuries, the canonical account of the structure of theories (what philosophers of science often have called "the received view") was based on an analysis of theories in the physical sciences such as the latter two just mentioned, and it is interesting to speculate what form the "received view" would have taken had Darwin's work been taken as the starting point for analysis. But, for better or worse, the account that dominated throughout most of the 20th century was that a mature scientific theory consisted of a number of interrelated propositions that precisely described mechanisms, "theoretical laws," or "theoretical principles" that lay "behind" or that served to explain the empirically derived facts or observed regularities in the relevant domain. Furthermore, the theory could generate predictions about what would happen in this domain if the values of some variables were changed.

The concept of theory within the sciences was often broadened to cover two other elements: First, scientific theories often incorporated models, such as the familiar "billiard ball" model of molecules that accompanied the kinetic theory of gases (indeed there was a lively dispute about the nature of such models and about whether they were a necessary part of a theory); but whatever their status, by extension these were also often called theories. Second, the term also was stretched to refer to an overarching explanatory framework or paradigm or conceptual network that provided a way of thinking about a wide domain, and within which a number of specific theories are located (as in "Einsteinian physics," "cognitive psychology," and "behaviorism").

There can be little doubt that this tripartite "received view" of the nature of scientific theory, which in reality was an account of theory in the physical sciences, had a significant impact on the social and behavioral sciences and in education—but an impact that can now be seen to be largely detrimental. Rather sterile attempts were often made to ape the physical sciences; it was even common for scholars in the social and applied sciences, who resisted this importation of the "received view" into their domains, to quip that the social sciences and educational research suffered from "physics envy." But many others took a hard line and argued that these "softer" areas were theoretically extremely weak and even that they were to be regarded as "sciences" only as an academic courtesy. And indeed they were—and are—theoretically weak, if the kinetic theory of gases and Einstein's theory are taken as the benchmarks. Some decades ago, the respected philosopher D. J. O'Connor expressed this view in forthright prose that is worth quoting at some length:

> I tried to give an answer to the question "What is an educational theory?" My answer consisted, briefly, in sketching the standard senses of the term "theory" and showing that educational theories did not conform at all closely to these standard senses. I concluded that "the word 'theory' as it is used in educational contexts is generally a courtesy title." Naturally enough, this conclusion was not well received by all of those whose interests lie in these fields. It seemed to some critics to be, at best, unduly

> restrictive and, at worst, wildly perverse to take scientific theories as a model for theories in general and for educational theories in particular. (O'Connor, 1973, p. 48)

But the situation now is not quite so bleak, for the "received view" is no longer so widely received even as an account of theories in the physical sciences, and in addition, theoretical work in the "soft" and applied social sciences has become the focus of attention on its own terms and is no longer approached with the presupposition that it needs to resemble physics in order to be respectable.

All this being said, the field of education certainly can yield examples of theories in one or other of the three senses encompassed by the "received view" discussed earlier—more "models" and "paradigms or frameworks" than "structured sets of propositions," perhaps—and these have, by and large, been included in the encyclopedia.

It would be unsatisfactory to break off discussion of the term *theory* at this point. One other important issue needs to be pursued.

Theories *in* Education, Theories *of* Education, and Educational Practice

The starting point here is that because theories in the scientific sense give an account of the "nuts and bolts" of nature (to use Jon Elster's expression), they can be used to guide our interventions in the world—a feature noted in the old adage that "there is nothing so practical as a good theory." Unfortunately, it turns out that the relation between theory and practice is far from being as simple and direct as this might suggest. No doubt there are some educationally relevant theories that, despite the efforts of their formulators, contain areas of vagueness or lack of specificity so that they can be interpreted in many ways, resulting in multiple incompatible lines of guidance. And of course many other theories are more specific or precise. Nevertheless, it is important to realize that in *all cases*, what a theory implies about practice is open to debate. The openness of the relationship that exists between theory and practice (even when the theories are rather precisely phrased ones in domains such as psychology, that often get applied to educational problems) was noted, memorably, by William James (1899/1958):

> I say moreover that you make a great, a very great mistake, if you think that psychology, being the science of the mind's laws, is something from which you can deduce definite programmes and schemes and methods of instruction for immediate schoolroom use. Psychology is a science, and teaching is an art; and sciences never generate arts directly out of themselves. An intermediary inventive mind must make the application, by using its originality. (pp. 23–24)

Part of the issue here is what philosophers call the "is–ought" problem. Scientific statements, or theories, are attempts to describe what *is* the case, or what mechanisms or regularities lie hidden behind observable phenomena (think of the kinetic theory of gases and Darwin's theory of evolution by natural selection, to cite two spectacular examples from the natural sciences, and Piaget's theory of cognitive development). Furthermore, although it is still the focus of lively debate, a widely held desideratum for theories across the natural and social sciences is that they be value free in the sense that they must not be biased in favor of the social, political, religious, or moral values of the individuals who developed them (see the entry "Value-Free Ideal for Research: Controversies"). Consequently, if we are thinking through what *ought* to be done in some applied science or educational setting, in light of a putatively value-free theory about what *is the case* (e.g., one of those mentioned above), we run into the problem that in general there is no simple, straightforward link that allows us to leap from what *is the case* to what *ought to be done*. For the situation is that various trains of argument can be constructed that lead from the very same *is* statement or theory to quite different conclusions about what *ought* to be done in practice; where we end up depends on what value premises and other material we use in constructing the argument that actually links theory and practice—and this was part of William James's point when he noted that to generate ideas about an art such as teaching from scientific statements, "an intermediary inventive mind" was required in order to make the link, and it follows that different "inventive minds" might make links that lead in different directions. All of us are familiar with this phenomenon in our everyday lives—consider, for example, that many individuals faced with a serious medical problem seek a "second opinion," on the grounds that oftentimes two experts in the very same field will give different advice about what action ought to be taken, even when they have been provided with the same empirical evidence pertinent to

the case. Many of the encyclopedia's entries take account of all this by pointing to some of the ways the relevant theory has influenced, or has been applied to, educational practice.

So far, the focus has been on what practical implications flow from the putatively value-free, scientific-type theories that are used *in education*; but it is crucial to recognize that not all carefully developed positions that count as theories in education are, or aspire to be, scientific in this sense, nor are they to be thought of as coming from outside of the field of education and as being applied to it. (I am putting aside, for the purposes of this discussion, theories in the broader, looser sense of hypotheses or guesses.) It is my impression that theorists and philosophers on the Continent have been readier to acknowledge these as genuine theories than their colleagues in the English-speaking world.

The entities that I am referring to here can be thought of as being theories *of education*, and often, they are not value free—which is no great surprise given that the enterprise of education itself is value oriented. It has been common for philosophers to note that people need to be educated because what they *are* is not what they *ought to be*. In other words, the whole field of education has a set of core values built into it; as is made clear in numerous entries in the encyclopedia, the development of autonomy and rationality is valued, as are moral development and civic participation and the acquisition of literacy; and teaching rather than indoctrination is prized as an educational process. Thus, these theories *of education*, as well as incorporating empirical findings and the like drawn from the social and behavioral sciences, also incorporate, are based on, or are warranted by value judgments (which sometimes are explicitly acknowledged and at other times are simply assumed). In a sense, such theories do not raise the issue of how statements about what *is* the case, and conclusions about what *ought* to be done, can be linked together—for the value/normative element is actually built *into* the theory itself, together with an explicit link to the course of practical action that is being recommended. This account of theories *of* education was powerfully defended by a leading analytical philosopher of education, Paul Hirst, who contested O'Connor's narrow account of "theory" by arguing that where "a practical activity like education is concerned, the place of the theory is totally different" from what it is in the natural sciences. "The function of the [educational] theory," Hirst (1966) stated, "is to determine precisely what shall and shall not be done" (p. 40). Such a theory, he went on, necessarily draws

> on knowledge other than science; it must, for instance, draw on historical, philosophical and moral understanding as well. In particular whatever one may think of the truth claims of metaphysical beliefs and the form of justification of moral values, both these enter into the formation of educational principles and judgments. They cannot be ignored or wished out of the way. (p. 41)

Again, the issues that arise here will be pursued elsewhere in these volumes.

Modes of Philosophy

Usage of the term *philosophy* presents difficulties that parallel the ones faced in dealing with *theory*. (For deeper discussion of the following points, see the entry "Philosophy of Education," in the *Stanford Encyclopedia of Philosophy*; Phillips & Siegel, 2013). In the first place, there is a very loose usage according to which anyone who has thought deeply about a domain, or who has come to hold complex beliefs or strong biases about it (whether well founded or not), can be labeled as being a "philosopher." I have heard a professional football coach, who was noted for the innovative game plans he devised, called a "philosopher of the game"; and sometimes TV personalities who give lifestyle advice are called "real philosophers." (Such labeling is often, but not always, intended to be commendatory!) In this diffused sense of the word, there are innumerable "philosophers of education," for a great many individuals have thought relatively deeply about, or have strong and complex opinions or biases about, educational issues; parents, teachers and former teachers, school administrators, and politicians and candidates for political office are among the ranks of philosophers of education in this extended sense.

A second sense of the term—far more likely than the first to be represented in this encyclopedia—is what in other contexts I have labeled "cultured reflection on education." This category covers individuals such as the 16th-century essayist Michel de Montaigne—who had a strong interest in education and wrote in a reflective way about it but did not self-identify as a "philosopher." This category merges with another, which includes individuals

who are scientific researchers of one stripe or another, or cutting-edge practitioners, but who are nonphilosophers; sometimes, these folk step back from their research or field of practice to examine this field more broadly and, from this distance, to make insightful metacomments about it (about matters such as the adequacy of the theories that are dominant, the clarity of key concepts, the validity of research designs for putting hypotheses to the test, and the like). Einstein is a good case in point, but so is the behaviorist psychologist B. F. Skinner, as are the anthropologist Clifford Geertz and the psychologist Jerome Bruner. Making such metacomments about a field, however, has long been part of the role of philosophers—philosophers of science, for example, frequently engage in this type of work. So at the metalevel of reflection on a domain, the difference between a philosopher and a thoughtful researcher or practitioner in that domain becomes difficult to draw. Important work of this genre has found its way into the encyclopedia.

A fourth category of "philosophers of education"—one that often causes confusion—is made up of individuals who are rightly identified as philosophers (often they are among the most noted in the history of the discipline) and who have written about education but not in a particularly deep philosophical way. (Great philosophers do not always write philosophy!) The extraordinary 20th-century philosopher and logician Bertrand Russell, for example, wrote several rather feisty books about progressive education; these did not reflect his technical philosophical interests but rather were interesting reflections on the education that he and his then wife were providing in the small school they had established, and certainly, the generating of royalties was one of Russell's underlying motivations. Personally, I would also place the great empiricist philosopher John Locke's much-reprinted *Some Thoughts Concerning Education* in this category; it is a work that drew on his experiences as a man of the world, and its original form was a series of letters he wrote to a cousin giving sensible and rather down-to-earth advice about the education of her son, who evidently suffered from a learning disability.

Locke's case is particularly enlightening, for some of his technical philosophical writings—which did not mention education at all—were of profound educational significance. This, then, introduces a fifth category—works of technical philosophy that do not directly address education but that have turned out to have had great educational significance and that have been a fruitful influence on numerous professional philosophers of education and others. Locke's philosophy, for example, influenced psychologists working on problems of learning for more than a century; no doubt Friedrich Hegel, Hans-Georg Gadamer, Ludwig Wittgenstein, and John Rawls also are important examples.

Finally, there is the technical sense of the term *philosophy*, the sense that covers writings in epistemology, moral philosophy, political philosophy, metaphysics, and so forth. Much (but not all) work that self-identifies as "philosophy of education" fits comfortably here, for these works tackle directly, and in a technically philosophical manner, educational issues that have an epistemological or moral or political philosophy dimension. The work of Richard Peters, Israel Scheffler, and Nel Noddings can serve as examples.

Using the Encyclopedia

The preceding discussion dealt with some of the issues that had to be faced as the content of the encyclopedia was being selected. But another host of issues arose in organizing this content and in making it easily accessible to the reader. One matter, of course, was deceptively simple: The entries are arranged alphabetically, and there is an alphabetically ordered list of them, as is the norm for encyclopedias. The "deception" arises—as a moment of reflection will reveal—in the matter of the wording of the title of each entry (the "headwords"), for, of course, it is these titles that are alphabetically arrayed. A clear majority of the entries—I did not keep accurate score as the issue became too vexing—were renamed several times as I struggled to find titles that would allow interested readers to locate relevant items readily, that would make sense in an alphabetical listing of contents, and that would be an accurate reflection of each particular entry's content. I am sure that I did not always succeed in this apparently simple task; but I draw consolation from the fact that items of interest can almost certainly be located by way of the index, which of course lists names of individuals who are mentioned in the entries even when these do not appear in the titles.

I will refrain from tugging on the reader's heartstrings further by recounting the difficulty I faced, together with members of the Editorial Board, in selecting the categories for the Reader's Guide (RG). Suffice it to say that the domains covered by the encyclopedia—theory and philosophy—made this task

very difficult; for, as many of us know, theorists and philosophers often—and quite rightly—insist that their work cannot be readily categorized, for it deliberately transcends boundaries that too often are artificial and restrictive. As a consequence, many of the entries could be placed under three or four RG categories, and several could be placed under more, which tended to make the RG categories large and unwieldy—and these are hardly appropriate desiderata for an RG, which after all should serve to guide the reader! Eventually, however, an RG emerged with sensible categories that I am hopeful will be useful to many readers; these categories are listed in the section below.

The Reader's Guide Categories

Aims of Education

Classic Premodern Philosophers, Theories, and Theorists

Curriculum

Educational Research, Evaluation, and Testing

Equity, Rights, Social Stratification, and Citizenship

Higher Education

Learners, Learning, and Teaching

Liberal Education

Moral, Religious, Spiritual, and Social/Cultural Values

Multiculturalism and Special Populations

Organization of Schooling

Philosophy of Education: The Analytic Tradition

Philosophy of Education: The Continental Traditions

Philosophy of Education: Feminist Perspectives

Philosophy of Education: Nonwestern Traditions

Philosophy of Education: The Political Theory Tradition

Philosophy of Education: The Pragmatic Tradition

Philosophy of Science, Sociology of Science, and Epistemology

Progressive Education

Psychological Orientation in Educational Theory

Social Sciences Orientation in Educational Theory

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D. C. Phillips

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A

Abilities, Measurement of

Human abilities measurement is the science of quantifying individuals' capabilities for performing cognitive tasks. *Cognitive tasks* range from abstract "IQ test"–like tasks, to the kinds of academic tasks routinely assigned in school (e.g., reading, writing, science, and mathematics), to those conducted in the workplace (e.g., accounting, forecasting, and decision making). *Capabilities* are what an individual can do in a best-case situation, when alert, well rested, and motivated, as opposed to what that individual might do routinely, which is captured in the often-cited distinction between maximal versus typical performance. The importance of motivation in human abilities measurement has been demonstrated in various incentives studies that show that fairly simple incentives, such as nominal pay or suggestions that test scores might be shared with potential employers, can have dramatic effects on cognitive test scores.

The fundamental idea underlying the premise of human abilities is that there is a small, core set of capabilities that govern how well an individual can perform an infinitely broad range of tasks. Although anecdotes about human abilities undoubtedly can be traced to the beginnings of history, Sir Francis Galton and particularly Charles Spearman are credited with the modern psychometric (i.e., psychological measurement) claim that performance on tasks can be well predicted by positing a general-ability factor, which Spearman called "g," along with task-specific factors, which he called "s." In his primary mental abilities model, Louis Leon Thurstone showed that a better prediction of task performance was obtained by positing several general factors, including verbal comprehension, spatial ability, numerical ability, word fluency, memory, perceptual speed, and inductive reasoning. A reconciliation of the approaches to ability in terms of general versus primary factors was proposed by John Carroll, who reanalyzed most of the data sets on ability tests in existence and found evidence for a hierarchical model of human abilities with a general-ability factor at the top, primary abilities similar to Thurstone's at the second stratum, and even more specific abilities at the third stratum. An issue in Carroll's formulation, and in the field in general, is whether it is more useful to posit a single general factor or whether, as Raymond Cattell and John Horn long argued, proposing two broad general factors—general fluid (gf) and general crystallized (gc)—is more appropriate. The justification for the two-factor view is based on both content differences (gf is measured by abstract tasks and gc by school-like tasks) and developmental trends: Whereas gf, reflecting general thinking capabilities, peaks in young adulthood, gc, reflecting the accumulation of knowledge, peaks relatively later in life, suggesting that gf is invested to yield gc returns. Reconciliation of the g versus gf–gc positions seems to have been accomplished by the proposal of the Catell-Horn-Carroll model of the structure of human abilities, which now appears to be the most widely accepted framework for the structure of human abilities; in particular, it is the foundation for many commercial intelligence test batteries used primarily by school psychologists.

A central topic in human abilities research concerns malleability—are human abilities relatively fixed at early ages, or do they grow and improve? Support for the rank stability view (the view that the ranking of individuals remains stable even as mean scores increase) comes from test–retest studies that show high correlations between test scores measured in elementary school and those measured in adulthood, even late adulthood, such as the Scotland Mental Survey studies and similar studies conducted in Italy, Denmark, and elsewhere. Additional support comes from studies of identical twins reared apart whose abilities test scores tend to be highly correlated, as shown in the Minnesota Twin Family Study, for example. On the other hand, studies show that schooling boosts IQ scores such that each year of school leads to an additional 2 to 4 IQ points. Also, the so-called Flynn effect shows that gf scores (but not gc scores) have been rising steadily by approximately 0.2 standard deviations per decade in developed countries and that the scores in less developed countries are growing even more rapidly. Finally, there are many indications that wealth and socioeconomic status moderate test scores, so that lower–socioeconomic status individuals and poorer nations present lower test scores in international comparative studies conducted by the Organisation for Economic Co-operation and Development, and that adopted individuals show test score boosts of approximately 1 standard deviation, perhaps partly because of the enriched environment due to factors such as more sophisticated everyday family talk.

Ability measurement methods have changed remarkably little since the pioneering studies of Alfred Binet and Theodore Simon, Lewis Terman, and Spearman, and the Army Alpha examinations in the early 20th century (but see the commentaries by Susan Embretson and the commentary by Robert J. Mislevy, Robert J. Sternberg, and others on speculations on the future of ability testing). However, there have been continued calls for measuring new constructs using new methods afforded by advances in technology. For example, there have been proposals for an information processing account of human abilities, the most significant suggestion being that working memory capacity might underlie gf, a claim still being evaluated. An outgrowth of that suggestion is the finding that training working memory might increase gf, but that claim is controversial. Sternberg has been an influential proponent of new-ability measurement, particularly in advocating for the importance of creativity and tacit knowledge. These ideas have been put to the test in the development of new higher education admission tests at Tufts University, the University of Michigan, and elsewhere. Other new constructs include emotional intelligence and what have come to be known as 21st-century skills according to a recent report issued by the National Academy of Sciences and edited by James Pellegrino and Margaret Hilton. These include cognitive skills, interpersonal skills, and intrapersonal skills. In addition, there has been renewed interest in measuring response time as a part of ability measurement, situational judgment testing, and video-based testing, such as video situational judgment testing. However, perhaps the most significant development in human abilities measurement is the increased recognition of personality and its interplay with cognitive abilities. There now is a growing appreciation for the idea that schooling develops both cognitive and noncognitive skills and that the latter are more important than previously acknowledged, suggesting that measurement of noncognitive abilities is likely to receive increased attention in the coming decade.

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See also Cognitive Revolution and Information Processing Perspectives; Competence; Intelligence: History and Controversies

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Accountability and Standards-Based Reform

In a basic sense, accountability means nothing more than being responsible for one's actions and being willing to be answerable for them. In recent decades, however, the idea of accountability has become a central notion in new forms of governance in both the public and the private sector. This entry first examines the role of accountability in the governance and management of contemporary education, particularly in relation to standards-based educational reform—that is, the reform of education driven by setting and assessing standards of achievement. The entry then highlights some of the problems with the impact of accountability regimes on educational practice.

Accountability, Responsibility, and Management

That schools should be accountable is, in itself, a claim that few would wish to dispute. Yet there are three critical questions with regard to this:

1. To whom should schools be accountable?
2. For what should they be accountable?
3. And what form should such accountability take?

It is with regard to these questions that an important shift has taken place in recent decades as a result of the transformation of the idea of accountability from a relationship of mutual responsibility and trust into an instrument for the governance and management of organizations, including schools and the educational sector more generally. Key to this transformation has been the adoption of principles from financial accounting into a more general strategy of management and governance.

In the domain of finance, accountability has to do with the duty to present auditable accounts of the financial dealings of a business or organization, first and foremost in order to detect and deter incompetence and dishonesty in the handling of money. Accountability as a management and governance strategy works on the same principles—sometimes referred to as the idea of "management by numbers"—in that it requires data about the performance of all aspects of an organization to judge whether the organization is performing in the way it is expected to perform. Accountability as a management strategy, therefore, not only comes with a demand for total transparency but also tends to start from a position of distrust rather than trust. The burden of proof, in other words, lies with the organizations being held accountable in that they need to *prove* that they are performing according to the required standards rather than being trusted to perform to the standards. The managerial use of the idea of accountability fits well with a neoliberal approach to governing, where governments are less directly involved in the running of public services such as schools but, instead, govern such services through the specification of targets and standards that need to be met. In such a setup, regulatory bodies are tasked with the important role of assessing whether schools and other public services are indeed meeting their performance targets.

Standards-Based Educational Reform

The rise of the managerial approach to accountability has coincided with a particular approach to educational reform and educational improvement known as standards-based educational reform. The idea behind standards-based educational reform is relatively simple; it centers on setting specific standards of achievement that students need to attain. In this regard, one could even say that the idea behind standards-based educational reform is as old as education itself, as education is always done with some particular result in mind. One of the problems in the adoption of standards-based educational reform is that, over time, the specification of what it is that students need to achieve has become increasingly detailed and, more important, increasingly prescriptive. Consequently, the standards-based approach to educational governance and educational reform has significantly reduced not only the scope for schools and teachers to devise their own ideas about what their educational efforts should achieve but also their ability to tailor educational efforts to the needs of individual students. When standards are set for what students need to achieve by the end of a stage of schooling, such as primary or secondary school, schools and teachers still have an opportunity to devise different ways in which such standards can be achieved; however, when standards are set for each year, the progress students are expected to make is defined in minute detail, thus limiting opportunities for schools and teachers to make meaningful adjustments to the educational trajectories of individual students.

While standards-based reform in itself already intervenes quite significantly in the everyday practice of education, it does so to an even greater extent when it is combined with managerial approaches to accountability in which standards are the performance targets that students, as well as teachers and schools, must meet. The combination of the two thus provides a powerful mode of central control over education, which helps explain why it has become a popular approach in education policy in many countries around the world.

Problems

The combined impact of standards-based educational reform and a managerial approach to accountability has put considerable pressure on the educational system. The pressure is felt not only by students themselves but also by teachers and schools, particularly in situations where performance data—at the school level and sometimes even at the level of individual teachers—are made public. While this is often done in the name of transparency, more often than not it contributes to a culture of "naming and shaming" rather than the establishment of a culture of support for educational improvement. Perhaps the biggest problem of the combined rise of standards-based educational reform and a managerial approach to accountability has been the emergence of what in the literature is known as a culture of performativity, where *indicators* of performance become seen as *definitions* of performance, so that schools no longer aim to provide their students with a good and meaningful education but, instead, begin to focus on achieving the best possible position in comparative overviews of school or teacher performance. Because of this, and because of the more general pressure that the combined effect of standards and accountability puts on all actors in the educational system, there is a real question as to what extent these developments are contributing to the actual improvement of education.

Gert Biesta

See also High-Stakes Testing; Managerialism

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Achievement Gap

Virtually all countries try to meet two goals for the outcomes of their schools: getting high levels of student achievement while minimizing systematic gaps in performance. Dealing with these issues simultaneously frequently presents challenges and policy conundrums. The United States—the subject of this discussion—has felt the weight of these issues where the historic pressures of segregated education have been heightened by a steady influx of immigrants. Moreover, these problems intersect with residential location patterns so that many of the challenges are concentrated within a relatively small number of school districts. Dealing with goals related to the level and distribution of performance can seldom be accomplished by using a single policy; in fact, it requires multiple policies.

Most countries find that the performance of students varies systematically with a variety of characteristics. The largest concerns generally relate to family background, as defined by income, race, and ethnicity. The motivation behind these concerns is that schooling outcomes are known to relate closely to subsequent incomes and performance in the labor market. Thus, low achievement by children that is related to family incomes and ethnicity implies an intergenerational transmission of poverty. This entry summarizes the data on current gaps in achievement and examines the explanations that have been offered for these differences. It concludes by reviewing research on some key factors—racial segregation, teacher quality, and early childhood—that could potentially have a significant impact on existing gaps and by considering their policy relevance.

Existing Achievement Gaps

It is important to understand the magnitude of achievement gaps that exist. In the aggregate, the United States has seen some convergence over time in school attainment by race and ethnicity. For the population of ages 25 to 29, there have been increases in high school completion and convergence across subgroups over the past two decades. In 1980, 89% of White students completed high school, while only 77% of Blacks and 58% of Hispanics did so. By 2012, the differences in high school attainment had been cut in half, with completion rates of 95%, 89%, and 75% for Whites, Blacks, and Hispanics, respectively.

Yet the schooling statistics also show another distributional trend: Completion of college has significantly diverged between Whites and both Blacks and Hispanics. In 2012, 40% of Whites completed a bachelor's degree or more, while only 23% of Blacks and 15% of Hispanics reached this level. The diverging completion trends are particularly important given the rapid rise in return to college over the past two decades. With the growth in the value of higher education, this differential rise in college attendance is not altogether surprising given the divergence of preparation for college.

But perhaps more important are the gaps in measured achievement of students. The United States has tracked the performance of students over time with the National Assessment of Educational Performance. This assessment has consistently traced performance at different ages and in different subjects since the early 1970s. The best comparisons are at age 17, just before students either enter the labor market or continue on to college.

The gaps in achievement are truly stunning. While there has been some historic closure, particularly in the 1980s, the current differences are enormous. The Black–White gap in math in 2011, for example, places the average Black at the 19th percentile of the White distribution. The Hispanic–White gap places the average Hispanic at the 26th percentile of the White distribution.

Explanations of Achievement Gaps

Enormous amounts of research have gone into understanding what causes these gaps. One of the first efforts to understand racial differences in achievement was the Coleman Report, an official government report issued in 1966 in response to the Civil Rights Act of 1964. The Coleman Report, officially titled *Equality of Educational Opportunity*, was widely interpreted as concluding that families were the most important influence on student achievement, followed by each student's school peers; schools had little influence on achievement. However, that analysis has been heavily criticized for a variety of analytical reasons. Overwhelmingly important for the purposes here, however, is that it did not have good measures of differences either in school quality or family backgrounds. Indeed, subsequent attempts to sort out the impacts of families, schools, and peers have foundered on similar problems.

We do know that common measures of school quality—spending or other characteristics—are not closely related to achievement. On the other hand, variations in teacher effectiveness are important, reinforcing the general presumption that schools have a strong impact on students. It is just that the classic input measures of teacher quality are not very useful.

In reality, given our current knowledge, it is simply not possible to measure the relative importance of the various underlying causes for the existing gaps. We know that student achievement is strongly related to family background, but little attention has been given to how family background should be measured if one is looking for the causal structure. It is clear that we would like to eliminate the racial and ethnic gaps in achievement, both because of equity goals and because of the impact of unfulfilled human capital possibilities. But looking at policies to do so is not the same as knowing the causes of the existing gaps.

Racial Segregation in U.S. Schools

Over a long period of time, the United States has wrestled with problems related to racial segregation. Before the 1954 ruling of the U.S. Supreme Court in *Brown v. Board of Education*, a number of southern states had de jure segregation of schools, or segregation established by law. The Court ruled that this led to an inherently unequal system of education and called for desegregation of schools. This ruling led to a long series of actions, sometimes related to further Court decisions, that moved toward breaking up past racial concentrations. The movement away from de jure segregated schools was balanced by de facto segregation of schools outside the South, where racial concentrations were the result not of legal restrictions but of residential patterns coupled with school assignment policies.

The research most directly related to questions of how racial concentration relates to achievement gaps focuses on whether peer racial composition, as opposed to desegregation actions per se, affects achievement of Blacks as well as other demographic groups. While this has been a difficult issue to research, the available evidence suggests that Black achievement is harmed by having schools with higher concentrations of Black students. (Current evidence does not indicate similar impacts for Hispanic students.)

Nonetheless, because racial segregation in schools largely results from separation in residential location across jurisdictional lines, there are few legal or policy recourses that would lead to lessened racial concentrations. In part this is the case because, since the 1970s, the courts have taken an increasingly narrow view of actions toward reducing school segregation. In particular, consideration of interdistrict remedies was increasingly ruled out by the Supreme Court. Perhaps the final limitation came in 2007, when the Court even struck down voluntary race-conscious plans operated within individual districts in cases involving Seattle, Washington, and Louisville, Kentucky.

Teacher Quality

Perhaps the strongest and most consistent finding of recent research is the importance of teacher quality. The early work on teacher quality focused on measurable characteristics and background factors of teachers, such as experience or type of training. The analysis of teacher effectiveness has largely turned away from attempts to identify specific characteristics of teachers. Instead, attention has focused directly on the relationship between teachers and student outcomes. This outcome-based perspective, now commonly called value-added analysis, takes the perspective that a good teacher is simply one who consistently gets higher achievement from students (after allowing for other sources of student achievement, e.g., family influences or prior teachers).

In a series of studies since 2000, outcome-based estimates find substantial variation in teacher contributions to achievement, supporting the interpretation that the earlier work simply had poor measures of teacher quality. For example, available results imply that having a teacher at the 75th percentile as compared with the 25th percentile of the quality distribution would move a student at the middle of the achievement distribution to the 58th percentile (in one academic year). The magnitude of such an effect is large relative to the typical measures of Black–White or Hispanic–White achievement gaps described previously.

While there is little evidence that teacher quality varies systematically with student characteristics (race, ethnicity, or income), the results suggest that improving the quality of teachers for disadvantaged groups could close substantial parts of the existing achievement gaps.

Early-Childhood Education

A recent focus of policy discussions is preschool education. There are three arguments for why broad provision of preschool education is a good idea. First, the problems of disadvantaged children at entry to school have received increased attention, particularly with the availability of new longitudinal data for early childhood. The deficits in preparation of disadvantaged children are significant. For example, evaluations of the vocabulary of disadvantaged children find that they have been exposed to dramatically less vocabulary—more advantaged children at age three had vocabularies that were four times as large as disadvantaged three-year-olds. Moreover, the quality of parent–child communication was vastly different. These differences in preparation have potentially lasting effects on student outcomes.

Second, a variety of conceptual arguments for early investments in human capital—most notably by Nobel laureate James Heckman and his colleagues—have received scholarly and policy attention. They suggest that investments made early in life enhance learning later in school and even into careers.

Third, key studies with strong research designs have supported the efficacy of preschool education. The most well-known is the Perry Preschool Program, but others, such as the Abecedarian Program and the Early Training Program, also provide important evidence.

For these reasons, it is natural that discussions of preschool enter into the education policy debate and into judicial proceedings and judgments. There are reasons to be favorably disposed to instituting expanded preschool programs for disadvantaged students. The idea has been to supplement what goes on in the home in order to provide stronger educational development. Such preschool investments recognize that it is easier to remediate earlier rather

than later. At the same time, the limited number of models that have been evaluated provides uncertain guidance about the design of effective programs, particularly programs that reach male children.

Some Conclusions

Achievement gaps, particularly by race and ethnicity, have been large and persistent in the United States. The continued existence of these gaps is incompatible with widely held views of equity for society, because they indicate a persistence in economic disadvantages.

Correcting these problems, however, has proven difficult. First, there is genuine uncertainty about governmental policies that will systematically raise student achievement. Second, policy goals invariably include raising achievement of all students in addition to closing achievement gaps. If closing gaps meant simply redistributing good schools from the more advantaged to the less advantaged, there would be obvious political conflicts and there would be a conflict with goals to increase all achievement.

One policy that would potentially improve minority achievement, particularly of Black students, without harming White students would involve lessening the concentrations of Black students in segregated schools. The range of potential policies is nonetheless very limited because there is little ability to move students across jurisdictional lines, where most of the segregation exists.

Improving teacher quality, particularly for minority students, is one policy that holds promise. The best way to do this remains somewhat uncertain, although there are many ongoing potential policy initiatives that might solve this. The largest problem is that teacher effectiveness is not closely related to common measures used to assess teacher quality, such as experience or graduate training. Thus, it is difficult to regulate better teachers, and moving toward improvements demands being able to evaluate teacher effectiveness directly. This remains a topic of much current debate and research.

Finally, a particularly attractive policy is providing improved early-childhood education for disadvantaged students. Because education in the home and through other early experiences currently favors more advantaged students, better preschool experiences of disadvantaged students would act to equalize early opportunities. This would tend to improve their preparation for school and to close achievement gaps without harming the more advantaged students. The policy issues in this realm relate to finding the best way to provide and pay for this early-childhood education.

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See also Coleman Report; Equality of Educational Opportunity; Ethnicity and Race; Human Capital Theory and Education; Quality of Education

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Achievement Motivation

Motivation is a psychological construct that explains the nature, strength, and persistence of behaviors. *Achievement motivation* concerns motivation in contexts in which performance standards apply and outcomes can be judged as successes or failures. Typical contexts include schools, athletic fields, the workplace, the stage, and even social situations. Success and failure may be defined variably, for example, as meeting a personal goal, achieving recognition or a reward, or winning a competition. Success for a pianist might be measured in the length of applause, for a hostess in the amount of food the guests

consume, for a student in the grade on a test, and for a surgeon in whether a patient survives.

Theoretical Frameworks

Theories of motivation have been generated to help explain, predict, and influence behavior. Those that focus on achievement vary in their assumptions about whether the source of motivation is in the individual or in the environment, how malleable it is, how it is measured and how it is influenced.

In the 1950s and 1960s, David McClelland pioneered the field of achievement motivation, stipulating that, as a consequence of parenting in early childhood (e.g., supporting autonomy, encouraging achievement striving), individuals develop a stable disposition or trait, which he referred to as "need for achievement" (nAch). Individuals high in nAch possess a strong motive for success and seek challenges. Low nAch is associated with selecting very easy tasks (to minimize the risk of failure) or very difficult ones (to avoid embarrassment from failure). His conceptualization of achievement motivation shared with psychoanalytic theory the notion that motivation is not conscious and therefore needs to be assessed with projective tests.

In stark contrast, behaviorists who became prominent in the early 1960s conceptualized all motivation entirely in terms of observable behavior and explained all behavior in terms of previous reinforcement contingencies—what Edward Thorndike referred to as the "law of effect." According to this theory, individuals exhibit a particular behavior in achievement or any other setting because they have been reinforced (rewarded) for that behavior in the past. Accordingly, students who are rewarded (e.g., with good grades or praise) for working hard on school tasks and for persisting when they face difficulty will continue to work hard and persist in the future.

Reinforcement theory was originally derived from drive theories, which assumed that reinforcement necessarily involved the reduction of basic biological needs (e.g., hunger and thirst). A parent's praise, for example, might have taken on reinforcement properties by having previously been associated with food and the reduction of hunger. Difficulties in explaining the effectiveness of a wide range of outcomes that appeared to influence behavior led theorists to drop drive reduction as a factor. Reinforcement theorists today make no claims about particular qualities of reinforcements. Any consequence of a behavior that increases the likelihood of its future recurrence is, by definition, reinforcing, and any consequence that reduces the likelihood of its recurrence is punishment.

Behaviorism is considered mechanistic because it is not concerned with beliefs, feelings, aspirations, or any other psychological variable that cannot be directly observed. The theory has clear implications for how motivation is conceptualized and measured. Motivation is not considered a quality of the person but, rather, is conceptualized as a set of behaviors and their contingencies. Any attempt to influence motivation would involve rewarding desirable behavior and punishing or ignoring undesirable behavior.

Many achievement motivation theorists find such mechanistic assumptions about behavior unsatisfactory and, instead, have explored psychological variables that are not directly observable. Cognitive motivation theorists do not rule out external reinforcement as a cause of achievement behavior. They claim, however, that cognitions (beliefs) such as expectations mediate the effect of rewards. In addition to personal histories of rewards and punishment, beliefs are based on many factors, such as observations of the consequences for others when they behave in a particular way or, even simply, what they are told about what they can expect. When teachers call attention to the consequences of students' behavior ("Table 3 can go to recess because everyone is sitting quietly") and when they promise rewards ("If you finish all your work before recess, I'll let you play on the big kids' yard"), they are using cognitive motivation theory. They are attempting to influence behavior by affecting expectations about the consequences of desired behaviors.

Cognitive motivation theorists focus on a variety of beliefs related to achievement behavior. Self-efficacy theory focuses on expectations for success. Self-worth theorists study the ways in which individuals' beliefs about their competence in performance domains affect their behavior. Locus of control theorists have demonstrated the role of perceptions of control over outcomes. If a performer believes that the judges are biased against him, for example, he might believe that success is not really within his control and, therefore, not exert much effort. Attribution theorists fine-tuned locus of control theory by differentiating among specific controllable and uncontrollable causes of outcomes (e.g., luck, ability, effort, help, etc.) and examining the effects on behavior of particular causal attributions.

Beliefs about achievement are malleable, and because beliefs are to some degree situational, cognitive motivation theorists sometimes measure them in specific situations (Do you expect to succeed on this math test?) or domains (Are you athletic?). Cognitive theorists design interventions that are aimed at changing maladaptive beliefs, for example, by trying to convince individuals that they can, in fact, succeed if they exert effort.

John Atkinson introduced values into achievement motivation theory. According to his expectancy *x* value theory, exerting effort and persisting on a task require more than expecting to be able to complete it; the task must also have some value attached to it. Atkinson conceptualized value narrowly in terms of pride in success. Other theorists have considered values more broadly, such as in terms of how important achievement in a particular domain is to one's self-concept and how useful particular kinds of achievement are perceived to be. Researchers working from an "expectancy *x* value" theoretical framework, therefore, measure students' perceptions of the value of success or other rewards in efforts to predict or change behavior. Attribution theorists, mentioned above, also assume the importance of pride in achievement-related behavior, finding that attributions for success and failure affect pride and other emotional reactions differently, and the emotional reactions, in turn, affect subsequent behavior. For example, success attributed to personal effort produces pride that promotes future effort, whereas success attributed to luck yields surprise rather than pride, which may not promote future efforts.

Intrinsic motivation theorists are also concerned with emotional as well as cognitive aspects of motivation. Intrinsic motivation theory is based on the assumption that humans are inherently motivated to develop their intellectual and other competencies and that they take pleasure in their accomplishments. Part of the value of achievement striving is the intrinsic pleasure one experiences from achieving higher levels of mastery or understanding. Intrinsic motivation is typically measured by observing people's voluntary activities. Thus, to assess students' intrinsic motivation to read, researchers might find out how much they read on their own, when there are no external consequences. Or they might give them several activities to choose from and observe whether they do one involving reading. In interventions designed to increase intrinsic motivation, the context or the task is changed in ways that are known to foster human beings' intrinsic motivation, such as ensuring that the task is challenging but not too difficult and providing some choice.

Self-determination theorists add two basic needs—to feel self-determining (having some control over one's behavior) and to feel socially connected—to the need to feel competent, which is central to intrinsic motivation theory. According to this theory, people do not function effectively in any achievement context that fails to meet any of these three needs. Self-determination theorists thus study the conditions that support individuals' feelings of competence, control and social connectedness, and design interventions that create those conditions.

Recently, goal theorists have pointed out that people engage in the same behavior for different reasons and that the reason for engaging in a task is just as important as the level of effort, degree of persistence, or any other observable behavior. For example, the goals of learning, mastering, or understanding (referred to as "mastery goals") have been found to promote intrinsic motivation and challenge seeking better than the goals of achieving extrinsic rewards or recognition ("performance goals"). According to goal theorists, interventions designed to change maladaptive behaviors and increase learning require changing goals.

In summary, achievement motivation theories are based on different assumptions about factors that affect behavior in achievement-related contexts. They are not, however, mutually exclusive. It is highly likely that parenting in early childhood affects individuals' general disposition to be achievement striving, that all individuals take some natural pleasure in a feeling of mastery or competence, and that beliefs about the likelihood of effort leading to success affect effort on tasks, and so on. Together extant theories of achievement motivation suggest that behavior is affected by both the setting (e.g., reward contingencies, support for autonomy), as well as by both malleable (e.g., expectancies for success) and more stable (need for achievement) factors internal to the individual.

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See also Behaviorism; Learning, Theories of; Motivation

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Activity Theory

Activity theory (AT) focuses on how culture and history shape individual consciousness and the organization of collective activity. Its roots lie in Marxist philosophy and the Soviet psychology of the 20th century. Like Marxist philosophy, AT foregrounds the role of material, goal-directed activity in shaping human consciousness. The core ideas of AT trace their origins to the writings of Lev Vygotsky and his followers in the early 20th century, including A. N. Leont'iev, Alexander Luria, Vassily Davydov, S. L. Rubinstein, and P. I. Zinchenko. Current AT focuses on the importance of accounting for multiple and interacting activity systems and partially shared objects.

Relevance to Educational Theory and Philosophy

AT arose as a critique of two widely circulating theories in Russian and early Soviet psychology—behaviorism and introspectionism. Vygotsky criticized behaviorism for focusing only on what animal and human behavior have in common, rather than what distinguishes them. He argued that psychological theories should explain instead how voluntary functions, such as attention, memory, and problem solving, arise. He posited that human beings employed cultural and historical tools to direct control over behavioral processes and to organize activity. Such control and organization are evident whenever people carry out joint action.

Vygotsky also criticized introspectionism, the idea that understandings of human mental functioning should be derived from introspection. He argued that psychologists should not analyze thinking apart from human activity, since these activities play a central role in individual development. Vygotsky argued that before a process appeared on the "psychological plane," it first had to appear on the "social plane," in collective activity. He termed this the *genetic law of cultural development*. A distinguishing feature of the Vygotskian framework is the centrality of culture and cultural mediation understood as a uniquely human environment imbued with artifacts and practices of previous generations and changed by their use in goal-directed human activity.

AT's significance arises not only from its critiques of psychology but also from its concern with *praxis*, or practical human activity to transform the world. Vygotsky and his collaborators engaged in clinical and educational endeavors directed at improving the conditions of young children, children with disabilities, and adults who had suffered from brain injury. More recently, scholars have used AT to organize and analyze educational settings in schools, informal learning environments, and workplaces; to reveal and analyze the cognitive demands of work often judged to require limited knowledge; to design sociotechnical systems; to study knowledge production and change in organizations and in processes of professional development; and to guide radical forms of psychotherapy. Recent scholarship has also extended the use of AT as a framework for analyzing and organizing social change. It has been an especially useful framework for scholars studying how to draw on cultural, racial, or linguistic differences as resources for teaching and learning. In particular, this emphasis on conceptualizing diversity as a resource has helped generate new models of educational intervention that build on repertoires of practice within nondominant communities to open new possibilities for activity.

Core Constructs of AT

The foundational idea that individuals develop in relation to the systems of activity that constitute an individual's life forms the basis of the constructs that animate AT.

Analysis of Levels of Activity

In contrast to theories of learning and development that presume that activities are static while individuals change, AT posits that systems of activity are also changing. This led Leont'iev (1978) to argue that activity must be analyzed at multiple levels, which he characterized as the levels of activity, action, and operation. In this scheme, activities are collectively organized and can be characterized in terms of their motives. Actions are an intermediate level, analyzed in terms of the objects of individuals, and operations are a means toward accomplishing goals. Many operations become unconscious or automatic through repetition.

Subsequent theorists have offered related, but distinct, formulations of the concept of levels of activity. Yrjö Engeström's (1987) theory of learning by expanding, for example, proposed a method

of analysis of activity in terms of tools or artifacts, rules, and division of labor. Learning by expanding focuses attention on development as a concerted, collective effort to transform activities in ways that expand possibilities for action by analyzing contradictions or tensions within and across activity systems. Engeström and colleagues have developed these ideas through formative interventions in the form of change laboratories where participants, local practices, dialogue, and participants' interpretations matter. In these change laboratories, dialogue and sustained relationships set the foundation for the generation of novel solutions, problem solving, and transformation. Change laboratories have been used to facilitate improvements to hospital care and public services in Scandinavia.

Within developmental psychology, Barbara Rogoff (1995) proposed an analysis of development in three "planes": (1) the individual or psychological, (2) the interpersonal or group, and (3) the community levels. Consistent with earlier AT formulations, Rogoff's theory posits that development entails the ongoing, mutual constitution of development across these planes, separated out only for analytical purposes to privilege an understanding of particular human activity. Accordingly, people inherit and make use of practices invented by others and then change those practices in participation.

Mediation

The focus on goal-oriented action within AT gave rise to inquiry into the means for accomplishing action. Vygotsky (1987) referred to "psychological tools" as means linked to the higher mental functions of directing attention, constructing memories, and solving problems. These tools encompass all manner of signs and systems for creating and transforming meaning: language, gesture, systems for counting, mnemonic devices, mathematical symbol systems, diagrams, maps, drawings, and so forth. The introduction of such tools into the flow of activity both facilitates and transforms object-oriented activity.

For activity theorists, the capacity of human beings to use such objects to regulate the self is an important function of psychological tools. These include the use of tools to aid not only in problem solving but also in remembering events and focusing one's attention. A person can draw on other kinds of tools, such as projections of a future self engaged in particular kinds of activity (as in *prolepsis*), to construct identities (Cole, 1996).

Genetic Method

AT emphasizes the *process* of development. A key aim of analysis is to trace the genesis of particular psychological processes within activity. In AT, relations among persons, activities, and tools are not considered at just one moment in time; rather, their development over short and long time spans is examined. Cultural–historical analysis within AT encompasses the history of the species (phylogeny), the cultural history of social groups, the history of experience of each person (ontogenesis), and microhistory of events that are in the immediate context of a person's life (microgenesis). In contrast to some images of development in psychological theory, experiences of development over time are understood to entail dynamic processes full of upheavals, sudden changes, reversals, boundary crossing, even destruction and breaking away from activities.

One approach to studying how tools mediate activity is the method of double stimulation (Vygotsky, 1978). An investigator using this method presents a person (e.g., a child) with a stimulus or problem to solve that is hypothesized to be outside his or her capabilities to solve. The investigator observes how this person approaches the problem and then presents to the person a tool meant to aid in problem solving. The introduction of tools to aid in problem solving can construct what Vygotsky called a *zone of proximal development*, "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance, or in collaboration with more capable peers" (p. 86).

Criticism and Challenges to AT

One critique of AT pertains to the idea of goal-directed action. Lucy Suchman (2007) has pointed out that objects and plans do not always precede or control activity; in fact, reasons and purposes are often retrospective constructions rather than guides to activity (see also Lave, 1988). These theorists argue that goals or purposes are better understood as resources in activity—akin to other kinds of artifacts and psychological tools—rather than something special that precedes action. Others point out that much action is habitual rather than consciously goal directed.

Another critique relates to the monism of traditional Marxist conceptions of activity, that is, that reality constitutes a singular whole. Some scholars

from within the tradition of cultural–historical AT emphasize the hybridity and heterogeneity of cultural tools within activity as key resources for learning by expanding. Some also emphasize the variation within and across cultural repertoires for participating in activity as sources of heterogeneity in activity. Drawing especially on the work of Mikhail Bakhtin (1981), these theorists describe *multivoicedness*—the tension among different voices and perspectives on activity—as generative of change and expanded possibilities for action. Actor–network theorists critique monism in AT, because it fails to provide a means for analyzing heterogeneous actors in complex networks. Actor–network theory posits that the social and material are symmetrical forces within human activity, brought together into assemblies or networks of linked people, artifacts, and practices (Latour, 2005).

At present, a key challenge for AT is interdisciplinarity. The study of activity necessarily draws on perspectives from anthropology, sociology, history, economics, and other human sciences. Yet it is most well developed at present within the fields of psychology and human–computer interaction. Historically informed accounts of activity are largely absent, which is a problem given the centrality of history to AT. As the study of activity expands to encompass more disciplinary perspectives and methods, scholars within AT argue that a challenge will be for AT to remain a coherent framework for analyzing activity rather than an eclectic grouping of multiple theories.

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See also Actor–Network Theory: Bruno Latour; Marx, Karl; Vygotsky, Lev

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Actor–Network Theory: Bruno Latour

Actor–network theory (ANT) is an approach that attempts to capture the complexity of the social world by tracking the relations among human and nonhuman actors (which might be other living things, objects such as machines, or ideas); it examines how scientific knowledge arises through the interactions between scientists and researchers and the social and the natural contexts on which they act. It is most closely associated with the French thinker Bruno Latour. It has its roots in the sociological study of science, but in taking in other objects of study (including politics, law, technology, and religion), it has developed into a philosophical enquiry into our "modes of existence" that poses considerable metaphysical challenges to conventional accounts of our world.

From one perspective, Latour's project is one of alternative historicization. He does not seek to understand science in terms of a conventional heroic narrative, one that is teleologically directed in the sense that, armed with prior knowledge of the outcome, it recounts how this successful discovery of transcendent truth came about; rather, he builds up a detailed description of how scientists operate as they go along, facing challenges and choices and, in the absence of a route map, not knowing what obstacles or dead ends will confront them. In trying to understand science in action, one needs to observe scientists at work in the sites in which their knowledge is produced. For Latour and his collaborator Steve Woolgar, this was a neuroendocrinology laboratory in California, but the object of study might be fieldwork in the Amazon forests or, historically, Louis Pasteur's part in the discovery of microbes.

Science in action arises out of controversies (Does the Higgs boson exist?), and ANT seeks to describe the process whereby these matters of concern are (or are not) transformed into matters of fact. ANT is as interested in failure as it is in success. The laboratory gathers scientists and the equipment they have built to run their experiments, but it is full of pieces of paper as well—grant applications that keep the project funded, scientific journals bearing on matters of concern, diagrams, protocol books, photographs, and so on, all of which must be acknowledged as playing their inextricable part in the process of generating facts. In particular, Latour and Woolgar draw attention to "inscription devices," equipment devised for experiments that records experimental data and thus transforms the behavior of matter into written documents. Realist accounts of science tend to elide this representational element and the considerable work it does in both generating and sustaining those facts and to assume an unmediated insight into reality itself. For Latour, what we take to be real is the effect of those representations, and our sense of what we call "reality" changes as new representations are developed. Thus, Latour does not start from the position that the objects we study are stable and taken for granted; rather, he seeks to understand the processes by which they become stabilized, at least *relatively* stabilized, to the extent that they can be taken for granted.

Influenced by ethnomethodology, one important principle of ANT is the requirement to respect the metaphysics of the actors involved in what you are studying. Scientists are not the only actors in this process; crucially, and controversially, what Latour calls "non-humans" are actors as well and are granted agency. Anything that modifies a state of affairs, that makes a difference, is an actor. The failure of a piece of equipment or the puzzling appearance of an unexpected phenomenon in a photograph can make scientists do something; conversely, scientists can devise equipment (e.g., the large hadron collider) that makes pieces of matter do something that renders them visible to their inscription devices and also, as a consequence, real. This is not to endow nonhumans with consciousness or intentionality; for Latour, "make do" expresses the range of metaphysical shades that can exist between full causality and sheer inexistence. A second principle is that of symmetry: In advance of the enquiry, the investigator must not make assumptions that endow one type of actor with ontological privilege at the expense of another in respect of size (the very small may turn out to be more powerful in its effects than the very large), materiality, its status as human or nonhuman, and so on.

In not privileging the human over the nonhuman, ANT challenges the conventional distinction between subject and object. The laboratory is just one site where humans and nonhumans are gathered together in a context-specific web of associations and their identities are significantly fused—hence the en-dash (–) in actor–network theory. Pasteur developed procedures that rendered visible the agency (and existence) of microbes, but in an important sense, microbes play a part in the network (what Latour called in the title of one of his books *The Pasteurization of France*) that makes the Pasteur we are familiar with, and though long dead, Pasteur remains an actor in the health regimes engineered to control their effects that are still in place. An actor–network is made to exist by these attachments, and the more attachments it has—and the more resistant these alliances are to hostile scrutiny—the more powerful it is. Against the Cartesian definition of the ego ("I think, therefore I am"), Latour offers "I am what I am attached to." However, an actor–network is only as good as its weakest attachment, and that is what makes the difference between success and failure, between Pasteur and his rivals.

It is in this network of mediations that the scientific fact emerges as painstakingly *constructed:* etymologically, facts are "things made." This claim led to many attacks on Latour and his associates in the so-called science wars, to which Latour was happy to respond (often with a playful sense of humor

lost on his opponents), though they did lead him to be critical of the sociologistic emphasis of his early work. In explaining science, you cannot reduce it to the social—to do so is at the expense of taking the social and its key terms (e.g., power) for granted. For ANT, no thing can be reduced to some other thing in this way, for to do so is at the price of taking that other thing as simple and unproblematic—a notion that ANT asks you to challenge on principle (the theory takes on its specific identity from whatever actor–network it is attached to). Things (including ANT) do not exist "in themselves" as isolated quasi-atomic individual entities beyond analysis (Latour likes to appeal to the Germanic etymology of the word *thing* as an assembly that is to decide a disputed matter). Every "thing" is always already an aggregate that is significantly modified when brought into an association with something else that acts as a mediator and effects what Latour terms a *translation*. Explore the social and the scientific together under ANT, and both will be transformed. Rather than the distinctive "objectivity" of science being taken for granted, it is that very objectivity that is to be explained. Scientific facts are indeed constructed in the local circumstances of the laboratory, but if the network that generates them is robust in all its associations, those facts can be transported to any time and any place and so can claim to be *universal*. Latour uses the metaphor of the "black box" for such a fact: Like a computer or a television, if it does what it is supposed to do, you do not feel the need to open it up and find out just how complex its components and their interactions are. The so-called social sciences in their own right may aspire to the black boxes of the sciences and the stabilization they represent, but though sociology would like the social to be one, from the perspective of ANT, the social cannot be used as a cause to explain anything. Rather, the social is the consequence of the attachments, the hybrid network of associations of humans and nonhumans, ANT would trace. For ANT, the social sciences get it the wrong way round, taking for granted the very "thing" that is their task to explain—how associations are formed.

Nonetheless, condensed hybrid aggregates, "collectives" such as society or nature, operate powerfully on humans. A collective provides a shared definition of a common world, and such collectives underpin disciplines. Latour (2005) says of disciplines that "each has chosen to deploy some sort of mediator and favored some type of stabilization, thus populating the world with different types of well-drilled and fully formatted inhabitants" (p. 258). This leads to his theory of modes of existence. There is not one world out there but a plurality of worlds (politics, law, religion, science, the economy, etc.)—multiple regimes of truth operated in accordance with distinctive types of reason that present to us multiple modes of existence we inhabit. None of these is reducible to any other, though strenuous attempts to do so are made. In particular, modernity is characterized by its attempts to "purify" the hybrid collectives—society and nature. From the perspective of ANT, this cannot be done, and the project of modernity never got off the ground in the first place. This is not to make us postmodern: Rather, in the title of another of Latour's books, *We Have Never Been Modern.*

How does ANT relate to educational theory? In his dialogue *Meno*, Plato uses a set of exchanges about geometry between Socrates and a slave to suggest that there is no such thing as learning, only a remembering of knowledge that was always already there in our immortal souls before birth. However, for ANT, geometric deduction is not hardwired into our brains, but it is a historical construct involving the development of technologies of representation (the lettered diagram) through which Greek mathematicians could devise compelling proofs by tracking exact equivalences through successive stages of argument (see Netz, 1999). So while Pythagoras's theorem is the historical product of a particular time and place, other people can learn how to use the diagrams and techniques the Greek mathematicians developed, so that the proof can be demonstrated any time and at any place and is, theoretically, a universal fact. For ANT, like all forms of knowledge, these are *transferable* skills, skills that can be "carried across" time and space—but only as long as the networks of transmission that carry the techniques associated with the proof (schools, curricula, etc.) are not broken.

Duncan F. Kennedy

See also Edinburgh School of Sociology of Knowledge; Radical Constructivism: Ernst Von Glasersfeld; Social Constructionism

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Addams, Jane

Jane Addams (1860–1935) is best known for her contribution to the practice of social work in the United States; her efforts at Hull House (part of the Settlement Housemovement) have become famous, and she was given international recognition when she was awarded the Nobel Peace Prize in 1931. However, it is important to understand her social work as part and parcel of her pragmatist educational and social theorizing. Working alongside—and thinking together with—a group of educated women activists (e.g., Frances Kelley and Charlotte Perkins Gilman), as well as with the scholars of the Chicago School (e.g., John Dewey and George Herbert Mead), Addams was a pragmatist feminist whose commitment to plurality without antagonism was the centerpiece of educating (both adults and children) for democracy and freedom, and whose innovative understanding of ethics as utterly social was a springboard for social progress. These themes are explored in this entry.

That Addams's work is legitimately philosophical has been established in recent decades by a host of scholars who recognize the innovative quality of her ideas as well as the impact she had on her pragmatist contemporaries. It is important to note as well that she was recognized as a philosopher (as well as an activist) in her own time. Contemporaneous reviews of her *Democracy and Social Ethics* suggest that Addams's writings were interpreted philosophically. Furthermore, we know that Dewey spent significant time analyzing that work in his 1902 course on sociology of ethics and, in 1932, quoted Addams in his own final statement of *Ethics*. There he noted that Addams's formulation of a social ethics as a springboard for social progress had been groundbreaking. What bound Addams and the later Dewey was the insight that ethics is not an abstract field rooted in social ideas but in life lived in social interaction.

Given that Addams was a philosopher, she was one of a very specific kind emerging in her time and place: a pragmatist feminist. A pragmatist sooner than Dewey, living in and through the first wave of feminism, Addams wrote in an idiom that brought careful, experience-based analysis to bear on immediate social issues from poverty to immigration, to child labor, and to war and peace. While some of her writings are titled to betray their philosophical intent (e.g., *Democracy and Social Ethics*), many are not (e.g., *The First Twenty Years at Hull House*). But all of her work instantiates philosophy as an embodied, emplaced activity.

Inhabiting a female body in an age that constrained female bodies physically, medically, and culturally prompted Addams's feminist wrestling with the contributions to the social good that are possible in the face of such constraints. Over time and travel to Europe and back again, across psychological terrains of depression and immobility, with a dual recognition of both her (class and educational) privilege and her (gender) oppression, Addams developed, in her Rockford Academy commencement speech, the insight that women can and should be "bread givers," or people who provided emotional, physical, and spiritual nourishment to others. In thought and action foreshadowing aspects of Nel Noddings's *Caring* and Sara Ruddick's *Maternal Thinking*, she articulated and valued without apology a woman's perspective—without insisting that it be essentialized or limited to gender categories. Her category of "sympathetic knowledge," involving the reciprocal exchange of ideas, relies on reason without denying feeling, on relation without obliterating personal responsibility, and on contextuality without sidestepping the value of knowing.

Addams's pragmatism emerged in response to a progressive zeitgeist that located meaning in the consequences of action. What Charles Peirce and

William James could identify as the justification of meaning by results in action, Addams would enact and expand. As noted, she came to her full pragmatist concept of democracy, ethics, and education early, unconstrained by the history of philosophical conversation (specifically Hegelian idealism) that delayed Dewey's understanding of ethics as rooted in social experience. She resolved the apparent dichotomy between philanthropic giving and receiving in "The Subjective Necessity for Social Settlements," locating the philanthropic impulse in democratic living, in the sense of looking out for one another, and in the insistence that those who would be affected by any decision must be part of the decision-making process.

In *Democracy and Social Ethics*, Addams characterized democracy as a rule of living as well as a test of faith. When Dewey later described democracy as a mode of associated living, it is difficult not to hear echoes of Addams. Addams champions "lateral progress" as social gains achieved in reciprocal communication and held in common; this is the marker of democratic society. Her formulation represents not mere equality, nor political franchise, but something far more complex.

For Addams, education was both a means to achieve common ends and an end in itself. Through the reciprocal exchange of ideas among differing individuals—cast as play for children, as meaningful work and shared discussion for adults—cooperative intelligence is achieved. Democracy, as a way of living and as a mode of political value and organization, finds fertile ground here.

Both Addams's feminism and her pragmatism can be characterized as critical because she lived diversity as she thought about it. She recognized the play of privilege as a feature and function of diversity and employed that recognition to frame challenges to taken-for-granted power structures. Addams's Nobel Prize–winning pacificism was one such challenge and so was Hull House. Viewed as a philosophical design experiment rooted in the constructive possibilities of pluralism, Hull House served to demonstrate the possibilities for living democracy, effecting education, and "revivifying" the social life of Chicago at the turn of the 20th century. Addams's work at Hull House and her philosophic and social writings can be understood as mirror images working out these elements in both thought and action.

Barbara S. Stengel

See also Citizenship and Civic Education; Dewey, John; Feminist Ethics; James, William; Mead, George Herbert; Noddings, Nel; Peace Education

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Adler, Mortimer, and the Paideia Program

Mortimer Adler, professor, philosopher, and educational theorist, was born in New York City in 1902. He left school at age 14 to write for newspapers and initially enrolled in Columbia University to improve his writing. Because he never passed the swimming test, he never earned a baccalaureate degree, but he did eventually earn a PhD from Columbia University where he studied with John Dewey. Adler eventually repudiated Dewey's faith in progress and in science, positing instead the argument that while human situations may change, human problems remain the same. For education, then, we should look to the ancients and to philosophy rather than to fashion and science.

It is not surprising, then, that "Mortimer Adler" and "great books" are often considered synonymous categories. Adler believed that the classics are the foundation of a good education for all people because they *pass down* the "great ideas." Reading the great books develops ethical, socially responsible citizens who have in the great ideas the basic tools for living a good life. While Adler defines the three main objectives of education as (1) preparation for earning a living, (2) learning to be a good citizen of the republic, and (3) leading a morally good life, it is clear that he thinks the latter two purposes take precedence over the first because they lead to human happiness. Since learning to be a good citizen and

learning how to lead a morally good life (and in fact actually doing so) are attainable through reading the classics, that mode of study should be primary and universal.

The Paideia Program (from *paidos*, Greek for "raising a child") was based on an educational reform proposal from Adler and a group of like-minded scientists, educators, and business leaders intended to promote the reading and study of the great books. The program was based on the following tenets:

- All children are educable.
- Education is a lifelong activity.
- The primary cause of learning is the activity of the child's mind, which is assisted by the teacher.
- Multiple types of learning and teaching, including coaching and extended discussion, should augment lecturing.
- Preparing to earn a living is not the primary objective of education.

In many ways, the program was a "back to basics" reform proposal, with reading, writing, and arithmetic at the heart of it. It was also a self-consciously democratic and egalitarian proposal. In the words of Adler (1998), "equality of educational opportunity" is not

> taking all the children into the public schools for the same number of hours, days, and years. If once there they are divided into the sheep and the goats, into those destined solely for toil and those destined for economic and political leadership and for a quality of life to which all should have access, then the democratic purpose has been undermined by an inadequate system of public schooling. (p. 5)

Given his argument for a universal great books education, it is somewhat ironic that Adler's name and the Paideia Program have been associated with elitist approaches to education. There are three apparent reasons for the recurrent charges of elitism. The first is that great books curricula have usually taken root and flourished only at wealthy, private institutions such as Columbia, The University of Chicago, and Stanford—which abandoned its required freshman great books curriculum in the late 1980s but maintains an optional program (known as SLE, for "structured liberal education"), as does Yale ("directed studies")—or at renowned, equally wealthy, liberal arts colleges. (Exceptions that arguably prove the rule are honors programs at state universities, like the Honors College at the University of Houston, that require a Paideia-like curriculum for all majors.)

The second source of suspicion of elitism derives from a constellation of practical and populist notions about the vocational purpose of education, some of the more sophisticated of which derive from Adler's old foe John Dewey. Adler does not help his cause with such critics when he argues that the ancients regarded the training for particular jobs as the training of slaves. In Adler's view, the ancients, always his authority on matters of education, saw the pursuit of happiness as the universal human vocation and the primary, if not the sole, purpose of education.

Finally, programs inspired or supported by Adler have faced charges of bias and elitism. In 1986, these charges flared during debates at Stanford University, when students and faculty challenged a freshman requirement and its "core list" of 15 works, from Homer and the Hebrew Bible to Marx, Darwin, and Freud. The controversy culminated in 1989 with Stanford replacing "Western Culture" with a multicultural course titled "Culture, Institutions, and Values," or CIV. More directly and personally, charges of racism and sexism hounded Adler then and continue to this day—for his sometimes strident opposition to the inclusion of works by non-Western and non-European writers as well as works by women and persons of color and for his unwavering advocacy of the so-called canon consisting almost exclusively of "dead White males." Champions of multiculturalism at Stanford and elsewhere included Black student organizations, feminist groups, and others on the cultural left who argued that a curriculum like Adler's could not be relevant to the contemporary world in which students lived. The lack of "balance" in the curriculum was proof that there must be a bias beneath the egalitarian surface of the Paideia Program. Adler countered that great books, as opposed to good books, are not relevant for one moment or locale but for all time and that they provide an essential grounding for everyone—a common culture necessary for a functional democracy.

With multicultural critics of content on one side and populist critics of purpose on another, Adler's great books curriculum faced opposition on both the left and the right. During the 1980s and 1990s, the reputation of Adler's unifying and democratizing intentions were tarnished when critics lumped him with E. D. Hirsch, who helped fan the culture wars with his call for a "national culture," and Allan Bloom and William Bennett, both of whom Adler

considered elitist. More recently, Nel Noddings developed a nuanced alternative to Adler's program, which she calls a "Whitmanesque" curriculum, for poet Walt Whitman. Adler's insistence on a one-track system of education ignores real differences in talent and interest, Noddings claims, thus alienating and humiliating students who are not engaged by a Paideia-like program of study. She advocates a broader, less bookish, understanding of intellectual work, one that includes those who cook and those who repair as well as those who speak and write. Summarizing, then, critics of Adler object to the impractical, nonvocational nature of his program, the rigidity of its application to all children, and the preponderance of Western, White, and male writers in his great books canon.

Respecting the last and best known of these objections, great books programs are now often modified to include "alternative voices": works by women, persons of color, and non-Western/non-European authors. At almost every institution influenced by Adler, his 54 great books and the 102 great ideas he indexed in the *Synopticon* have been expanded and modified, and educators are generally less sanguine about the universality and sufficiency of their approach. Yet Adler's central insight still underlies much of what is identified as "core" or general education in schools, colleges, and universities. If they cannot agree on a list of titles, many, if not most, educators do believe in classic, universally valuable books and perennial ideas that are relevant to human problems in all times and situations. The implicit, if not explicit, assumption is that some ideas endure and broadly influence individuals and societies, and some books, let us call them "great," reward and sustain when read with attention and care.

William Monroe

See also Cultural Literacy and Core Knowledge/Skills; Dewey, John; Essentialism, Perennialism, and the "Isms" Approach; Multiculturalism; Noddings, Nel; Paideia; Vocational Education

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Adolescent Development

Adolescence typically refers to the period of life between the onset of puberty and adulthood. G. Stanley Hall (1844–1924) is usually credited with initiating scholarly interest in this developmental stage, which he viewed as a period of storm and stress (*Sturm und Drang*). For many theorists, adolescence represents a critical phase of human development as it does cover a period of demonstrable change, and many individuals have claimed that key aspects of their own thought and attitudes have taken root during adolescence. However, as Allan Wigfield, James Byrnes, and Jacquelynne Eccles (2006) have stressed, "Adolescence is very much a cultural phenomenon and the experiences adolescents have vary greatly across different cultures" (p. 88). This entry focuses on contributions to four main areas of adolescent development as studied in North American and Western contexts: (1) physical changes, (2) cognitive development, (3) social development, and (4) environmental changes that occur during adolescence.

Physical Changes

Puberty is the developmental process that is, perhaps, most closely associated with adolescence. Adolescence is often thought of as a period of storm and stress. Although these years are marked by substantial biological change, most scholarly work has determined that this "raging-hormones" view of adolescence is overstated. A key issue regarding puberty with respect to education is the timing of its onset. On average, the onset of puberty is about 18 months earlier for girls (usually starting around the age of 10 to 11 and lasting until they are 15 to 17)

than for boys (who usually begin puberty at about the age of 11 to 12 and complete it by the age of 16 to 17, on average).

The prevailing school of thought has been that better outcomes result for girls who hit puberty later and for boys who hit puberty earlier. As boys and girls hit their growth spurts, early-developing boys may stand out as suddenly looking more like the cultural ideal of the strong, tall, broad-shouldered man. They may also reap advantages from their size in athletic domains. In contrast, girls who hit puberty early may be embarrassed by their larger size (which runs counter to the cultural ideal). Furthermore, their physical development may open doorways to older peer groups and expose them to a riskier array of activities.

However, recent research has found exceptions to these trends. One emerging line of thinking is that while the physical changes may cause minor problems for some students, the real issue for educators arises when students face multiple transitions simultaneously. For example, a girl who begins puberty ahead of most of her peers as she transitions to a new middle school with new teachers and new peers may face multiple risk factors.

Cognitive Development

Within the domain of cognitive development, Jean Piaget's views have been particularly influential. Although less explicitly developmental, information processing views and Lev Vygotsky's social learning approach have offered prominent and competing views of how cognitive development may progress during adolescence.

Jean Piaget

In Piaget's view, cognitive development takes place through four distinct phases. He described (1) from birth through age 2 as the *sensorimotor period*, (2) from 2 to 7 years of age as the *preoperational period*, (3) from 7 through 11 years of age as *concrete operations*, and (4) from 11 years into adulthood as the *formal operations* period. For adolescents, what makes formal operations a qualitatively distinct way of thinking is the capacity for abstract thought. Specifically, in this view, what emerges during adolescence is a capacity (a) to think systematically (e.g., by isolating variables); (b) to entertain hypothetical presuppositions, counterfactuals, or alternatives; and (c) to make logical deductions. For example, a problem such as the following would require formal operations: Dennis is taller than Denise but shorter than Phillip. Phillip is shorter than Phyllis. Who is taller, Dennis or Phyllis?

Critique of Piaget's theory—specifically his work regarding formal operations—has come from three main sources. One line of questioning has raised the issue of whether changes in task performance that occur for youth transitioning into adolescence can actually be attributed to changes in logical thinking. A second line asks whether these changes really occur in stagelike fashion. Finally, questions about the universality of this stage have been raised—in other words, do all (or only some) late adolescents achieve formal operations and do they do so for all domains? Much of the evidence marshaled in support of these critiques has shown that, with proper training, much younger students can perform tasks requiring formal operations. Conversely, for novel domains, many late adolescents fail to successfully complete these types of tasks.

Information Processing

According to the information processing model, learners are like computers. Key functions of learners (and computers) are to receive and encode information from the environment, which must then be stored, organized, and remembered (as files must be saved). To use the information, people must recall it from memory (in the same way that old files may be reopened). These processes are controlled by executive functions—that is, *metacognitive skills*, such as attention regulation and rehearsal of information, and *elaboration* processes in which connections are made between pieces of information.

For the most part, scholars who adopt this general view of cognitive development see adolescence as a continuation of normal development. In other words, for adolescents, cognitive development occurs in much the same way as it does for younger students and adults. These scholars tend to find that development occurs differently in different domains—adolescents with substantial knowledge or experience in a domain may be able to perform much more sophisticated cognitive tasks than adolescents with little prior knowledge in the domain.

Lev Vygotsky

Although Vygotsky's theory of cognitive development does not focus on adolescents explicitly, several key ideas are regarded as especially important during this developmental phase. Vygotsky posited

that a primary learning pathway occurs between people—specifically between relative novices within a domain (e.g., children) and more experienced learners (e.g., parents or teachers). By working with more advanced others within a given domain, a relative novice can progress within a *zone of proximal development*. This zone represents the gap between what the learner can do alone and what he or she can do with assistance from a more experienced partner. In ongoing learning relationships, the more experienced partner provides *scaffolding* to help the novice with challenging tasks. As proficiency develops on those tasks, the scaffolding is removed so that the novice performs the task with increasing amounts of independence. During adolescence, improved metacognitive capacities allow youths to better able to plan, monitor, and evaluate their learning. Thus, it becomes increasingly viable for adolescents to scaffold one another's learning and help advance each other's zone of proximal development rather than relying on adults.

Synthesis

Although burgeoning empirical evidence casts doubt on certain aspects of Piaget's theory, adolescents may appear to take a leap forward in their cognitive development because the combination of their increasing cognitive capacity (in terms of memory and abstract thinking) and executive functioning capabilities allows them to devote greater cognitive resources to problem solving in domains where they have background knowledge. In domains where adolescents are less experienced and less knowledgeable, they may require more scaffolding from more experienced others. Findings from neuroscientific examinations of cognitive development provide some support for this possibility—adolescents experience important changes in brain structure and neurotransmitter levels that help enhance their executive functioning.

Social Development

During adolescence, people begin to develop their own identities and work out who they are in relation to others. The key researchers in this area include Erik Erikson, James Marcia, and David Elkind.

Identity Development: Erik Erikson and James Marcia

One of the hallmark tasks of adolescence is that of identity development. According to Erikson's stage theory, a core issue for adolescents to work out is that of *identity versus role confusion*. In other words, adolescents should strive to begin to define themselves in terms of their values, vocational interests, political and religious views, and so on through the exploration of the "Who am I?" question.

Marcia extended Erikson's theory by positing four outcomes to explorations of this question. An adolescent in *foreclosure* status has insufficiently explored this question and, instead, usually adopts the views of parents or friends without questioning them in a meaningful way. Adolescents experiencing *identity diffusion*, by contrast, have begun exploring the "Who am I?" question; they simply have not reached many conclusions. *Moratorium* describes the status of adolescents who are deeply engaged in the exploration of their identity, though whatever conclusions they may have reached at this point are likely tentative. Adolescents in *identity achievement* have typically undergone more thorough explorations of who they are and have made decisions about several aspects of their identity.

Social Cognition: David Elkind

Perhaps because of the view that they are undergoing a period of self-exploration, adolescents have garnered a reputation for egocentrism. Elkind proposed two metaphors to describe the ways in which adolescents become particularly susceptible to egocentric thought. Through the creation of an *imaginary audience*, adolescents think that others are thinking about and paying more attention to them than is actually occurring in reality. A particular consequence of this belief is the increased concern over appearance. By developing a *personal fable*, adolescents begin seeing themselves as special and unique. Believing too strongly in a personal fable can cause problems for an adolescent if it leads to feelings of invincibility or to feeling that nobody else can relate to him or her.

Although intuitively compelling, these metaphors—and the generalization that there is a peak in egocentrism during adolescence—have been questioned on several fronts. Most problematic for Elkind's theory is the view that adolescence is the time when youth develop the capacity to take the perspective of others in a sophisticated way.

Relationships

Two trends mark the progression of relationships during adolescence. First, adolescents tend to seek increased amounts of autonomy from their parents

during this phase. Second, they typically invest more time and emotional energy in their peer friendships. In other words, as adolescence progresses, individuals seek more of their relational and belongingness needs through their friends and often rely less and less on their parents for intimacy needs and emotional support. Although the existence of these trends is widely agreed on, a contentious debate has emerged surrounding Judith Rich Harris's assertion that peers are a vastly more influential factor than parents with regard to youth outcomes. To the extent that her contention is correct, there are dramatic implications for parenting, schooling, and youth development more broadly.

Synthesis

In exploring their own identities, two tools might become particularly important for adolescents—(1) their relationships with others and (2) their capacity to think about themselves with respect to those relationships. A particularly useful approach to exploring the "Who am I?" question is through ascertaining what one values. Youth can explore different values by "trying on" different sets of beliefs and behaviors in the context of different peer groups or cliques. Through these types of interactions and concurrent discussions with friends, students can more easily explore different identities than they can with their parents (who presumably lack the diversity of identities or points of view a large peer group can provide). Thus, parents may perceive their adolescent children as egocentric in their behavior; however, their children may simply be more motivated to take the perspective of their peers than their parents. To facilitate the exploration of their identities, they may be particularly motivated to understand what their peers think about themselves.

Changes in Schooling and School Contexts

As adolescents are experiencing these physical, cognitive, and social changes, they are also frequently faced with a dramatic change in context. As students transition from elementary school to secondary school, they frequently confront a new approach to schooling in a starkly different context. Secondary school students tend to move between different teachers for different subjects rather than having a single teacher instruct them in most areas; they are introduced to a new, larger peer group; and the nature of the instruction in their classes often differs from elementary school.

This change in environment is associated with a significant drop across a constellation of motivation-related outcomes (e.g., adolescents' sense of confidence, levels of intrinsic interest, positive feelings toward school, etc.). In addition, academic achievement typically suffers. Although these drops in achievement and motivation are most severe at the transition from elementary to secondary school, declines tend to continue as students advance through the grades.

Stage–Environment Fit

A prominent theory that has been introduced to explain how adolescents cope with these changes and transitions is that of the stage–environment fit (attributed to Eccles). According to this view, part of the reason that adolescents are at risk for negative consequences is that they experience a mismatch between their developmental needs and the opportunities that they receive in their secondary school environments. For example, these early adolescents are increasingly seeking autonomy, may need increased support from teachers to the extent that they are relying less on their parents, and require novel cognitive challenges. Yet their school environments frequently provide them with more controlling teachers and classroom contexts, teachers who feel less competent and whom they only see for short amounts of time each day, and coursework that may be less complex than the tasks they received in elementary school.

An important note is that this theory rose to prominence at a time when most students transitioned from elementary schools to junior highs (usually containing seventh through ninth grades). At present, middle schools (usually containing sixth through eighth grades and attempting to provide a more personalized experience) and primary schools appear more prominent. Thus, the empirical support for this theory needs to be revisited in light of these changes.

Hunter Gehlbach

See also Cognitive Revolution and Information Processing Perspectives; Metacognition; Motivation; Piaget, Jean; School and Classroom Climate; Social Constructionism; Vygotsky, Lev

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Advance Organizers

In the psychological study of learning, the 1960s marked a shift from behavioral models grounded in stimulus–response associations toward cognitive models derived from the notion that organization and structure were key features of human memory and learning (Mayer & Wittrock, 1996). Behaviorists emphasized the reinforcement of specific, small "steps" that cumulated to form large, complex achievements. Learning hierarchies as described by Gagne (1965) divided large tasks into subtasks, introducing the concept of structural strategies; subtasks were generally larger than stimulus–response associations, and considerable attention was given to the division into subtasks. At about the same time, David Ausubel introduced the concept of *advance organizers* (AO; Ausubel, 1960, 1968, 2000; Ausubel & Fitzgerald, 1961; Ausubel & Youssef, 1963). Ausubel focused on *meaningful verbal learning*, the comprehension of meaningful passages of 2,000+ words—material that was much too large to handle as small steps and much more complex than hierarchies. To assist readers' comprehension, Ausubel proposed including a brief preview—a few sentences or a paragraph—that captured the essential elements in the target material and relations among them, thus providing a structural framework that would facilitate learning, promote long-term retention, and provide a basis for transfer. Initial findings by Ausubel and others found positive effects from the AO strategy, but Barnes and Clausen (1975) wrote a lengthy review concluding that "advance organizers, as presently constructed, do not facilitate learning" (p. 651). Mayer (1979) responded by pointing out flaws in the Barnes-Clausen review and reporting a series of nine studies that clarified the conditions under which AOs were effective. This entry details the types of AOs that can be used with students and discusses how and when instructional designers might consider using them.

During the half century since Ausubel's 1960 article, structural learning has become a dominant paradigm in educational psychology. While research on AOs has diminished, Ausubel's ideas have persisted under titles such as *schemata* (Anderson, Spiro, & Montague, 1977), *semantic organizers* (Dinnell & Glover, 1985), and *text structure* (Chambliss & Calfee, 1998). The AO story illustrates how an apparently simple idea can set in motion a cavalcade of activities, extending and clarifying the original notions and advancing the field as a whole—even though the original labels and names may grow faint with time. The next section illustrates the AO concept and describes advances in comprehension springing from this concept that have emerged from subsequent critiques and debates.

The passage on *kinds of muscle cells* in Figure 1 will be used to illustrate the AO concept. The materials, shown in the left-hand panel, include a section from a high school biology text and a figure. This passage, though shorter than those in AO studies (200 words vs. 3,000 words), is both complex and difficult and serves to demonstrate the basic principles of the AO strategy.

How might a learner study this material in preparation for an examination? How might an instructional designer assist the learner in this task? One approach is based on rote memory, which might work for a small amount of material. The passage consists of about 500 separate propositions, each of which would have to be committed to memory through practice. The student also has to learn new and unfamiliar vocabulary items, which are listed for study: *contract*, *relax*, and *tendon*, along with *voluntary*, *smooth*, and *cardiac muscle* (*lactic acid* might be added to the list). Even for a short passage,

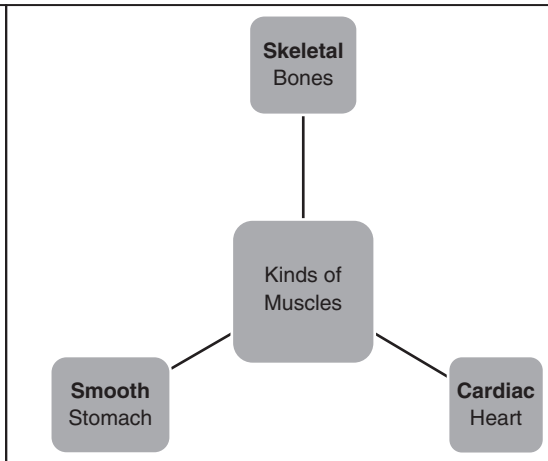
Three kinds of muscle cells make up the more than 600 muscles in your body. Each kind performs a different job, and as you see, each appears different through a microscope. Despite the differences, all muscle cells contract, making themselves longer. When not contracting, they relax, returning to their original length. The simple motion of contraction causes every movement in your body

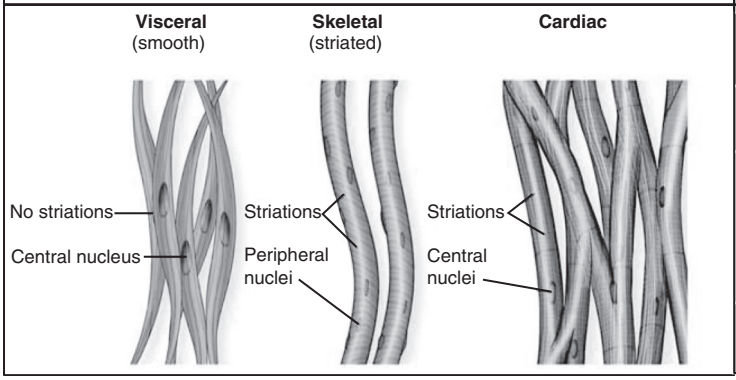
Skeletal muscles make your skeleton move. You use these muscles when you run, lift, or write. Skeletal muscles are voluntary, because you can choose when to contract them.

Bundles of **smooth muscle** are in your internal organs, like your stomach. Smooth muscles are involuntary, because you do not decide when to contract them. They perform slow, steady contractions. They help move food through your digestive tract and control blood pressure.

Your heart is made up of **cardiac muscles.** They contract very strongly and regularly, and rarely tire. Each cardiac cell has its own built-in rhythm. Cardiac muscles, like smooth muscles, are involuntary.

After vigorous exercise, muscles tire and ache due to the build-up of lactic acid, which is a by-product of muscle activity.





Kind of Muscle	Location	Use	Endurance	Contraction
Skeletal	Skeleton, bones	Move body parts	Tires quickly	Voluntary
Smooth	Internal organs, stomach, diaphragm, blood vessels	Digestion, breathing, blood flow	Long lasting	Involuntary
Cardiac	Heart	Pump blood	Steady, never stops	Rhythmic

Figure 1 Advance Organizer Options for Passage on Types of Muscles: Semantic Web (Upper Right) and Matrix (Lower Right)

Source: Text of figure adapted from Barnard, Stendler, Spock, and Edwards (1962).

rote memorization requires a lot of "small steps" to be stored in the memory.

In a learning hierarchy approach, the designer creates an outline of the material to be learned, starting with outcomes and then identifying necessary prerequisites. The designer would first introduce the prerequisites and then build on these to lead the learner through the passage. For example, the student might first be taught definitions for critical vocabulary, then taken through the three sketches, after which each of the paragraphs would be dissected in turn, and finally the pieces would be put back together. The steps are larger than for rote memory, but the learning process is still quite linear.

Structural approaches to comprehension like the AO model emphasize the "big picture." The reader, like a biologist, looks first for major skeletal elements that make up the body and then works out the detailed connections. What might provide the skeleton for *muscles*? We should assume that the designer/writer of *muscles* had a big picture in mind, and the first line offers a clue: *kinds of muscle cells*. The first sentence expands the title (*three kinds*), and the second sentence even further so (*each kind performs a different job . . . each appears different through a microscope*). The passage does not highlight the function of these two sentences; the reader must seek out elements like these that can serve as building blocks (or bones) for organizing the material. The human mind is naturally inclined to organize repeated experiences—to form *schemata* that extract the essential elements from everyday activities like trips to the grocery store. Reading comprehension is a complex and demanding activity, and a primary outcome of comprehension instruction occurs when the reader has learned to search for candidate schemata when encountering an unfamiliar passage and to build a new one if necessary. With this model in mind, the AO concept was proposed as a scaffolding strategy to support beginning comprehenders in dealing with difficult materials, by providing a schema in advance. The topic *muscles*

provides several opportunities for illustrating these issues. Ausubel proposed that either a summary (a synopsis of the material with low-level propositions deleted, e.g., *lactic acid*, is not connected to *kinds*) or a classical outline might serve as an AO for this passage. The textbook actually included a preview paragraph similar to the AOs used by Ausubel in the 1960s:

> Make a mental list of all the ways that you used your muscles today. You might include running, walking, and writing. But did you add pumping blood through your heart or churning the food in your stomach? Muscles do all of these things and more.

The preview identifies the key topic, *muscles*; reminds the learner about something he or she already knows; and then lists surprising ideas like pumping blood and churning food. It does not, however, offer any hints about the primary structural feature—three kinds of muscles serve three different functions—that emerged from our reconstruction of the text.

The early AO studies relied on text material (summaries and outlines), but graphic organizers (Chambliss & Calfee, 1998) offer several advantages, and in the digital age, they have become an integral part of virtually every "office suite." For example, *muscles* might be handled as a *semantic web:* a central core with three spokes, like the one to the upper right in Figure 1. A *matrix* like that to the lower right requires more work, but it provides greater structural support. The *muscles* matrix lays out the *three types* in the first column, after which *different features* are added, and then the various cells are filled in. One advantage of the matrix structure over a semantic web is that it focuses attention on the differential features that are the essential idea in the passage. The cells also provide pointers to specific details that the reader needs to look for, details that may not necessarily be in the passage but that the reader might know from prior experience.

In what ways might an instructional designer show a student how to use a matrix as an organizer? A similar question might be raised for an advance "paragraph," but the graphic layout makes it easier to formulate this question. One approach is to present a bare-bones "three-kinds" matrix; the first column is filled in, and everything else is blank. The reader has to generate column entries and fill in the cells. Or the designer might provide the column headings, since these are presently hidden in the text, to guide the reader in moving through the text. Finally, an experienced student would be expected to create a matrix when confronted with clues like those that are hidden in *muscles*; the ultimate value of the AO approach occurs when the student has internalized the strategy.

This example also raises the question of "when" to use an AO—before, during, or after reading. If presented in advance, the matrix provides a concrete template or schema for guiding comprehension; the reader is relieved of a major comprehension challenge, freeing memory to work on passage details. If available during reading, the matrix helps the reader keep track of the messages in the material, while also promoting active engagement if columns or cells are empty. If given to the reader after learning, the matrix can support retrieval of the material, which might be useful for the assessment of transfer—for example, "Based on what you learned about muscles, how would you predict nerve control for each kind of muscle cell?"

Figure 1 illustrates theoretical and practical investigations that have sprung from Ausubel's introduction of the AO concept. The most extensive developments have centered on extensions of assimilation (the connection of new learning to previous memories) and accommodation (changes in previous memories produced by new learning; Piaget & Inhelder, 2000). Mayer (1977, 1979) produced the most comprehensive reports along these lines. One series of studies (Mayer, 1979, pp. 373ff) explored AO impact on *reception* (encoding of information into working memory), *transformation* ("anchoring" of information during transfer from working to long-term memory), *assimilation* (integration with existing information), and *retrieval* (access to material at various points and in different situations after learning). The results showed that AO effects could be quite substantial (or not) depending on the nature of the target material, the knowledge and experience that learners brought to the situation, and the measures used to assess outcomes. For example, AO effects were generally small when recall was tested immediately with a recognition test, but they were much more substantial when tested after a substantial delay on an essay test. Learners who knew more about the topic benefited less from AO support than those who brought less to the task. For each of these findings, Mayer's conclusions were grounded in empirical studies of the underlying cognitive processes.

The idea of offering a road map for the reader about to engage with a long and difficult text might seem rather commonsensical, but the progression

of thinking that emerged from investigations of this notion illustrates how thoughtful scholarship and empirical study can inform and advance common sense. How should an organizer be constructed? How should the reader be guided in using an organizer? When should an organizer be presented—before (in advance), during (for ongoing support), or after (to review) engaging in the target material? These are but a few of the issues that arose from AO research. Perhaps the most significant contributions emerged from explorations of "how" and "why." What cognitive processes are at work when a reader employs an organizer of some sort, and why can an instructional designer most effectively employ an organizer in a particular setting?

The AO episode also illustrates the potential of efforts at bridging theory and practice, and in wrestling with a difficult problem to seek deeper understanding of the issues. Story (1998) asked, "What do instructional designers need to know about advance articles?" and rightly concluded that the answer depends on what is to be learned, who are the learners, and what are the outcomes. Story was concerned about the lack of detailed comparative studies, but the AO history suggests that designers must take an engineering approach rather than search for "pure principles." There is no general answer to the question of how to construct a suspension bridge like the Golden Gate. It depends on a variety of factors, along with principles from physical mechanics. In designing effective supports for learning new and complex ideas, instructors and designers cannot point to "one right answer," but they can draw on rich literatures such as AO research to point toward factors that matter, and to theoretical models available from cognitive learning theory, as foundation stones for designing and evaluating the effectiveness of different solutions.

Robert Calfee

See also Behaviorism; Cognitive Revolution and Information Processing Perspectives; Learning, Theories of

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Aesthetic Education

Although debates about beauty and judgments of personal taste date back thousands of years, the word *aesthetics* and the conception of aesthetics as a philosophical branch of axiology are relatively recent inventions that belong to the mid-18th-century German Enlightenment. Originally intended as a philosophy of reasoning through felt sensory experience

as evoked through poetry, *aesthetics* was quickly appropriated into widespread popular use as an umbrella term to embrace all discussions concerning the judgments of beauty and art. In these early formulations, beauty corresponded to truth; thus, beauty said truthful things about the world. Art was an empirical expression of beauty. This entry traces the evolution of the original German concept of aesthetic education and then examines three different contemporary theories: (1) the essentialist, (2) the cultural, and (3) the cognitive. Finally, the Lincoln Center Institute in New York provides a curricular example of integrating these aesthetic education theories into practice.

Aesthetic Education as a Curricular Concern

In 1795, Friedrich Schiller, writing at a time of high exhilaration and anxiety over the recent American and French revolutions, posited aesthetic education as essential to the development of individuals who could think for themselves. According to Schiller, only aesthetic education could train a new generation of citizens who were capable of forming their own judgments. In the presence of beauty, individuals would experience and come to know truth, without being told by authorities what to do. Early-19th-century advocates for public schooling in both Germany and the United States rapidly adopted Schiller's conception of aesthetic education as a tool for creating a competent democratic citizenry.

Perhaps the first practitioner to move Schiller's theory into a school curriculum was the Swiss educator Johann Pestalozzi. Working with orphans and disadvantaged children, Pestalozzi saw aesthetic education as a means of enticing children into learning. Eventually, Pestalozzi's curriculum became the foundation for the German drawing method adapted by the emergent Prussian system for public education. In turn, American transcendentalists Horace Mann and Mary Peabody traveled to Germany to observe this curriculum in practice. They brought it to the United States and the new public school systems in America.

Separately, Pestalozzi's student Friedrich Froebel advocated another path of aesthetics as experiential sensory education: the kindergarten. Mary Peabody's sister, Elizabeth Peabody, was instrumental in bringing this innovation to the United States. In yet another track, in the 20th century, Rudolf Steiner would build on Pestalozzi's curriculum to construct Waldorf education.

While theses evolutions of aesthetic education into schooling may appear to form a tidy narrative, it is hardly so. The 20th century actively decoupled the concept of beauty from truth, as well as beauty from art. Arthur Danto famously claimed that by 1964 we had reached the end of art. For aesthetics to be a part of philosophy, there had to be objects that belonged to the domain and others that could be logically excluded. If anything could be art, Danto claimed, the philosophical project of aesthetics was over. Today, the degradation of the term *aesthetics* is readily apparent. For example, *an aesthetician* can refer to both a university professor of philosophy and a beauty parlor nail specialist. A term with such chameleon qualities is difficult to use in scholarly discourse.

Three Views of Aesthetics and Education

Nevertheless, the philosopher Richard Shusterman (2006) offers three useful categories for conceptualizing the continuing role of aesthetics in education. First and foremost, aesthetics refers to essentialist universal judgments of beauty. This is commonly associated with the philosophy of Immanuel Kant. In this conception, there is enduring, universal knowledge that cuts across time and cultures. Any educated person needs to know this foundational material. The advocates for this position argue that all students should, at minimum, be able to identify exemplar works by major artistic figures such as William Shakespeare, Leonardo da Vinci, or Ludwig van Beethoven. Moreover, they should also be able to obtain aesthetic satisfaction (i.e., pleasure and delight) from these works. The curricular theorist Harry Broudy (1972) referred to this as "enlightened cherishing." Today, the *Journal of Aesthetic Education* continues Broudy's legacy.

Shusterman's second philosophical category is cultural. The philosophy of Georg Wilhelm Friedrich Hegel is readily associated with this view. In this conception, there are no universal truths, but it is valuable to study the contributions of different cultures. For example, the study of West African kente cloth (a foundational and perennial aesthetic tradition within Ashanti culture) provides a means for individuals who are outsiders to have an empathetic understanding of Ashanti culture. Aesthetic education would engage students in studying how cultural values are inscribed in an object. Studying distinctive ways of inscribing opens students to understanding the possibilities of the human imagination. Maxine

Greene (2001) is an important contemporary proponent of this view, as aesthetic education opens inquiry into the potential for humans to communicate within and outside of language. Here, aesthetic education easily steps into multimodal literacy education by allowing creative work from outsider youth subcultures such as graphic novels, zines, and comic jamming a place in the literacy classroom.

Shusterman's third category is the cognitive. As stated earlier, the original philosophy project was the study of rational thinking through the senses. Pestalozzi claimed that the mind was shaped through drawing. Early German writings in aesthetic education claimed that students experienced a special form of being in relationship. At first, this German concept could not be adequately translated into English, so by the early 20th century, a new word had been created: *empathy*. Thus, empathy is a content goal for learning within aesthetic education.

Here, empathy is more than simply understanding another culture (as in the kente cloth example). Empathy is also a capacity to understand one's self—the sensate body—in relationship to the world. John Dewey's *Art as Experience* (1934/1989) explores how sense serves as a provocateur to symbolic thinking. Simultaneously with Dewey's American-based inquiry into prelinguistic thinking, the emerging German philosophies of hermeneutics and phenomenology explore similar issues. George Lakoff and Mark Johnson (1999) are contemporary advocates for such embodied philosophy. In a pragmatic approach to actual classroom practice, award-winning children's author Molly Bang's *Picture This: How Pictures Work* (2000) offers examples of how visual images convey narrative, without the use of words, through the relationship of visual qualities. Bang demonstrates how pictures convey complex intuitions before students may have the words to articulate understandings.

Postmodern aesthetic education also falls into this third category. Postcolonial scholar Gayatri Chakravorty Spivak (2012) evokes Schiller's original project as a practice of resistance to institutional authority. She frames aesthetic education as disciplined subversion to the tyranny of language, in order that autonomous individuals can emerge in a time of relentless global standardization.

Curricular Applications of Aesthetic Education

Institutions that foster curricula in aesthetic education can intentionally or unintentionally blend all three of Shusterman's categories. The Lincoln Center Institute, the educational wing of the Lincoln Center for the Performing Arts in New York City, provides an example. Closely aligned with the work of Greene, Lincoln Center Institute first seeks to build audiences for the expensive cultural productions mounted at Lincoln Center. The institute fosters an appreciation of enduring excellence, Shusterman's first category of aesthetics. Second, the institute works with multiple art forms that reflect the diverse populations of New York City and sends teaching artists into classrooms to work with children in the children's own cultural contexts. This builds empathetic relationships, Shusterman's second strand. Third, Greene's philosophy champions imagination launched by deeply felt somatic experience, Shusterman's third strand of aesthetics. Thus, one could argue that the Lincoln Center Institute offers a rich integrative approach to aesthetic education. However, whether a curriculum is integrative or merely confused requires close attention to the alignment of objectives, activities, and assessment.

Richard Siegesmund

See also Dewey, John; Embodiment; Essentialism, Perennialism, and the "Isms" Approach; Greene, Maxine; Pestalozzi, Johann H.; Waldorf Education: Rudolf Steiner

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Affirmative Action

The phrase *affirmative action* entered policy discourse in the United States in 1961, with President John F. Kennedy's Executive Order 10925, which called for all federal agencies to take affirmative action to avoid discrimination in their hiring practices. However, the phrase *affirmative action* was not defined. The term was used again in President Lyndon B. Johnson's 1965 Executive Order 11246, which revised Executive Order 10925, but it still was not officially defined. Three years later, the Department of Labor, responsible for enforcing the policy, characterized affirmative action as a program emphasizing increased opportunities for underrepresented groups through expanded applicant pools and active recruiting and outreach strategies. Since then, debates over the merits of affirmative action policies and programs have endured, underscoring differences in ethical and political values.

Although specific programs may differ from one another, affirmative action is most often defined as a policy that aims to take an applicant's race, ethnicity, and gender into account in selection decisions. In the United States, this means that if an applicant is African American, Latino, Asian American, Native American, and/or female, this fact is taken as one qualifying factor among many considered in admissions or hiring processes. The range of affirmative action programs is broad, from federal contracts to employment and promotion, to college and university admissions. On the basis of the affirmative action policies in Executive Order 11246 and Title VI of the Civil Rights Act of 1964, which specified that discrimination by race, color, religion, sex, or national origin was prohibited by agencies receiving federal funding, many businesses, public agencies, and institutions of higher education began to revise their admissions and hiring policies so that a broader pool of people could have increased educational and employment opportunities.

The controversy over affirmative action has resulted in numerous important court cases that have shaped the contours of the policy. Those cases include most prominently *Regents of the University of California v. Bakke* (1978), *Gratz v. Bollinger* (2003), *Grutter v. Bollinger* (2003), *Parents Involved in Community Schools v. Seattle School District No. 1*, *Meredith v. Jefferson County Board of Education* (the last two cases were combined by the U.S. Supreme Court as *Parents Involved in Community Schools v. Seattle School District No. 1, et al.,* 127 S. Ct. 2738 [2007], known as *PICS*, 2007), and *Fisher v. University of Texas* (2013). In a series of cases since *Bakke*, the Court has set limits on the use of affirmative action policies in education and employment. It has narrowed the use of race-conscious affirmative action in education, at both the higher education level and the K–12 level, but the practice remains legal and viable. Quotas are rarely if ever used, based on the *Bakke* ruling against quotas and set-aside places at universities. *Gratz* reinforced the impermissibility for numeric set-asides in university admissions, and *Grutter* upheld the constitutionality of affirmative action plans that are narrowly tailored to serve the compelling government interest of diversity. In the *PICS* case, the Supreme Court ruled that voluntary racial integration plans in place in school districts in Seattle and Louisville were not narrowly tailored and, thus, unconstitutional. However, it did not overturn *Grutter*, and it supported the idea that diversity is a compelling interest in both higher education and K–12. In its June 24, 2013, ruling in *Fisher*, the Court ruled 7:1 that institutions of higher education are permitted to consider race or ethnicity as one factor in the admissions process. In addition, the Court declined to rule on the specific case and instead remanded it back to the lower courts. What this means for affirmative action policy in 2013 is that the Court declined to strike down the *Grutter* precedent through *Fisher.* It also means that institutions of higher education practicing affirmative action in their admissions would be prudent to design those policies in accord with the *Grutter* decision's mandate for flexible and individualized applicant review.

The affirmative action debate is characterized by a set of prominent rationales in favor of its use, on one side, and a set of criticisms of it, on the other. These are described in the next sections.

Prominent Justifications for Affirmative Action

As Moses (2010) has described, common justifications for affirmative action have typically fallen under four categories: (1) remediation, (2) economics, (3) diversity, and (4) social justice.

Under remediation, affirmative action compensates for past discrimination. The remedial rationale is a moral justification aimed at righting past wrongs and emphasizing compensatory, corrective action to rectify unfair treatment by race, ethnicity, and gender. Remediation was once the most prominent rationale used in the United States, until the courts showed it to be viable only in some specific cases of provable past discrimination, and the U.S. Supreme Court found it to be a less compelling rationale than arguments based on diversity.

Economic rationales highlight affirmative action as helping disadvantaged people contribute to economic efficiency and productivity. An instrumental rationale, the economic argument for affirmative action centers first on society's need for a greater number of disadvantaged people to be educated and to join the workforce and contribute to the economy. Second, economic efficiency requires the development of more role models for disadvantaged youth, so they will understand the importance of contributing to society and believe that they are capable of making such contributions. In this case, "contributing" signifies making economic contributions and no longer relying on welfare. Appeals to the role of affirmative action in increasing people's later economic productivity or engagement in mainstream economic affairs have not been as compelling as the diversity rationale in the United States, either in the public discourse or in the legal arena.

Under the diversity rationale, affirmative action serves to increase diversity and the educational and social benefits that flow from it. Researchers in this area have found significant educational benefits of having diverse classrooms, campuses, and work environments, specifically so that they improve research quality, learning experiences, problem-solving abilities, critical-thinking skills, and preparation for life in a multicultural society. Stemming from Justice Lewis Powell's opinion in the *Bakke* decision, affirmative action is a compelling state interest because of the educational benefits that flow from a diverse student body. Justice Powell explained that a diverse student body increases and deepens the perspectives present in classrooms and on campus, allowing for a richer learning environment. The diversity rationale became even more prominent after the 2003 *Grutter* decision. The University of Michigan defense in this case relied most heavily on the *Bakke* precedent to justify affirmative action in university admissions based on a compelling state interest to have racially and ethnically diverse institutions of higher education.

The social justice rationale focuses on racial integration, elimination of institutionalized inequalities, and equity in democratic participation. Relevant here is Young's (1990) definition of social justice as "the elimination of institutionalized domination and oppression" (p. 15). Social policies and societal institutions directly influence the presence of social justice (Arthur & Shaw, 1991). As Anderson (2002) argued, racial integration is important in providing opportunities to racial minorities and for fostering a democratic civil society. Through its role in increasing educational and social opportunities, affirmative action expands its beneficiaries' social context of choice—the context within which they make decisions about the future and participate in democratic politics.

Other scholars have made distinctions between types of justification. Anderson (2002), for one, highlighted two justificatory categories for affirmative action: (1) compensatory and (2) integrative. Under compensatory justifications, affirmative action policies provide "restitution for illegal discrimination that took place in the past" (p. 1196). This is parallel to the remediation rationale. Proponents of the integrative rationale, including Anderson herself, aim "to dismantle *current* barriers to equal opportunity for disadvantaged racial groups" (p. 1196). Anderson defined racial integration as "the full inclusion and participation as equals of citizens of all races in American institutions" (p. 1197). She explained, "The integrative model represents race-conscious affirmative action as a forward-looking remedy for segregation, rather than as a backward-looking remedy for discrimination" (p. 1197). The integrative rationale fits well under the broader rationale based on social justice.

Prominent Arguments Against Affirmative Action

According to Moses (2002), the most prominent criticisms of affirmative action center on the following: (1) reverse discrimination, (2) merit, (3) stigma, (4) social divisiveness, and (5) social class.

The first argument is that affirmative action amounts to reverse discrimination and violates key civil rights legislation such as the 14th Amendment and Title VI of the Civil Rights Act. Critics argue that when institutions take an applicant's race or ethnicity into consideration in admissions or hiring

processes, it is tantamount to discrimination against White students. Second is the notion that affirmative action degrades the merit-based standards at selective institutions, resulting in the acceptance of students or the hiring of professionals who are unqualified for the rigors of selective education or employment. Many White students believe that affirmative action policies came at the expense of their fair educational opportunities embodied in unbiased, merit-based selection. A third criticism, often movingly brought to the fore by critics of color themselves, is that students of color admitted under affirmative action policies end up feeling inferior to their White classmates. They argue that affirmative action stigmatizes students of color who end up with damaged self-confidence or feelings of self-worth, first, because they begin to doubt that their own qualifications earned them their admission, and, second, because they cannot compete with other students at selective institutions. Fourth, a claim made by opponents of affirmative action is that it ends up causing racial divisions rather than enhancing a healthy climate of diversity. These opponents worry that the social divisiveness that affirmative action policies create leads to racial conflicts between White people and people of color, often because of the resentment that White people feel. They argue that it is time to return to the ideal of color blindness, that the divisiveness of affirmative action has been endured long enough. Last, some critics of current affirmative action argue that it should shift from race-conscious to class-conscious policies, so that low-income men and women of all racial and ethnic groups would benefit. There are those on both sides of the affirmative action issue who would solve the controversy by simply replacing race and ethnicity with socioeconomic class.

In 1978, as the U.S. Supreme Court upheld the constitutionality of race-conscious affirmative action, Justice Harry Blackmun explained, "In order to get beyond racism, we must first take account of race. There is no other way. And in order to treat some persons equally, we must treat them differently" (*Bakke*, 1978). Nearly 30 years later, the Supreme Court chief justice John Roberts argued against race-conscious student assignment policies in his majority opinion in *Parents Involved in Community Schools v. Seattle School District No. 1* (2007), asserting that "[t]he way to stop discrimination on the basis of race is to stop discriminating on the basis of race." Their disagreement is at the heart of the dispute over affirmative action and is reflected in the most prominent apologies for and criticisms of the policy.

Michele S. Moses

See also Diversity; Equality of Educational Opportunity; Higher Education: Contemporary Controversies

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Aims, Concept of

At first sight, the concept of aims looks philosophically untroubling. One's aims are the things one hopes to achieve by one's efforts. Aims differ from other kinds of intention in that they involve the possibility of falling short. My intention to post a letter on my way to work this morning does not count as an aim because, while it can be frustrated by my forgetfulness or my not having time to make a stop, it cannot (usually) be frustrated by the difficulty of the task in hand, by my having tried but having failed to get the letter into the mailbox. To have an aim, then, is to intend to achieve by one's efforts something one's efforts may not be sufficient to achieve.

Many of the intentions of educators have this character. Bringing about learning in others is almost always a task one's efforts may not be sufficient to achieve. Accounts of what the learning educators are

trying to bring about, either in general or on particular occasions, are therefore properly described as accounts of their aims.

So far, so uncontroversial. It may seem that the only philosophical question about educational aims left to argue about is the substantive question of what those aims should be. But in fact there has been a good deal of philosophical disagreement about how and where aims should feature in educational theory. Following is a brief survey of the most prominent strands of this disagreement.

The Conceptual Thesis

An influential thesis about the aims of education is that they are implicit in the concept of education and can be made explicit by means of conceptual analysis. On this view, associated most strongly, perhaps, with the British philosopher R. S. Peters, to ask about educational aims is to ask for a more precise specification of the activity of educating. The term *education* picks out a certain form of human activity oriented toward a certain set of ends; to give a fully elaborated account of that activity and those ends is to say all that there is to say about the aims of education.

This conceptual thesis leads Peters to draw a sharp distinction between the aims of education and a person's *purposes in educating*. While to be engaged in educating at all is necessarily to be pursuing the built-in aims of education, there may be various other things a person hopes to achieve by engaging in the activity. A teacher may care deeply about children's happiness and believe that educating them improves their chances of being happy. A government's primary motive for providing state education may be to build and maintain a strong national economy. Motivations like these, argues Peters, are extrinsic reasons for educating, not aims of education.

One worry here is that Peters seems to have introduced an arbitrary constraint on the use of the word *aim*. It is natural to say, in the cases just given, that the teacher has the aim of making children happy and the government has the aim of strengthening the economy. Perhaps, then, it would be better to distinguish between *intrinsic* and *extrinsic* educational aims. Some of the things at which educators aim are necessary to the activity of educating; others are only contingently connected to the activity. But note that this apparently small amendment to the conceptual thesis significantly narrows its scope: It is now no longer a general thesis about the aims of education but a specific thesis about one type of educational aim.

Can Extrinsic and Intrinsic Aims Be Separated?

Another worry is that the distinction between aims and purposes, or between intrinsic and extrinsic aims, may not be as clear-cut as it appears. John White argues that, while the distinction works well for games like football and chess, its application to the practice of education is more problematic. Games have well-defined sets of rules and objectives: Part and parcel of what it is to play football is to have the aim of scoring goals. Education, on the other hand, is a practice whose procedures and ends are much less determinate and are often matters of controversy. Those who have attempted to derive specific principles of curriculum and pedagogy from the concept of education have invariably been accused of writing their own ideals into the concept. There remains an important distinction between intended learning, which is the direct focus of educational effort, and intended goods of other kinds (happiness, a strong economy, etc.), to which learning is a necessary or efficient means; but if *this* is the distinction we mean to mark by talk of intrinsic and extrinsic aims, it may be doubted that conceptual analysis can yield determinate aims of either type.

Predetermined Versus Context-Sensitive Aims

A second strand of disagreement about educational aims turns on whether or not they can be specified in the abstract, in advance of engagement with particular groups of learners. One need not subscribe to the conceptual thesis to think they can. White, for example, defends by normative rather than conceptual arguments a detailed general account of the virtues, skills, knowledge, and understanding at which educators should aim. But John Dewey, in *Democracy and Education* (1916), warns against any attempt to impose on educators a set of aims determined independently of the particular contexts in which they are working.

Dewey's objection to predetermined educational aims is that they are insufficiently sensitive to the needs of individual learners and the options open to individual teachers in any given context. Aims, he contends, are central to all human activities: They are the means by which agents give direction to what they are doing. But they only serve a useful purpose if they are provisional, flexible,

and organically connected to the circumstances of action. Teachers must continually devise and revise their aims in relation to the aptitudes, interests, and preconceptions of their pupils; to the physical and pedagogical resources available to them; to the unanticipated opportunities for learning that arise through classroom interaction; and to all the other contingent features of particular educational contexts. Aims predetermined by educational theorists are responsible, says Dewey, "for rendering the work of both teacher and pupil mechanical and slavish" (p. 129).

A possible response to Dewey is to question his all-or-nothing characterization of the choice between general, context-independent aims and particular, context-sensitive ones. It is plausible to hold that there is room for both. The theoretical project of prescribing aims for education, of giving a broad, normatively justified account of the range of learning educators should be trying to bring about, may be more compatible than Dewey suggests with the practical project of giving direction to classroom activity through the formation and amendment of concrete, situation-specific aims.

Product-Oriented Versus Process-Oriented Model

A third strand of disagreement is prompted by the radical thought that educators should repudiate aims altogether. To ask what learning educators should aim to bring about, it is sometimes suggested, is to buy into a product-oriented, rather than a process-oriented, model of the curriculum. It is to assume that teaching is only effective if it is directed toward the achievement of precisely specified learning objectives. But this is a serious mistake. A characteristic feature of rich and worthwhile educational experiences is that participants learn from them in different and unpredictable ways. The point of studying, say, Shakespeare's *Hamlet*, is not that everyone in the group should come to know an identical set of facts about the play but that everyone should find something in it that moves or disturbs or inspires them, that illuminates or transforms some aspect of their experience. It would be neither possible nor desirable to specify in advance, as objectives to be pursued, the multiple ways in which learners can be touched and transformed by engagement with literary texts.

While this represents a powerful critique of the sort of rational curriculum planning associated with the work of Ralph Tyler, it is less clear that it casts genuine doubt on the need for educational aims. Lawrence Stenhouse, the most prominent advocate of the "process model" of the curriculum, does not see himself as rejecting educational aims per se but as rejecting the sort of aims that can be translated into detailed, specific learning objectives. Education, he argues, is about initiating learners into modes or systems of thought that enable them to think and judge creatively and independently. Initiating a learner into a mode of thought is a different kind of aim from teaching her a simple skill or bare fact, and no doubt one whose achievement is more difficult to assess; however, it is an aim nonetheless. So while the debate between product- and process-oriented curriculum theorists is often portrayed as a dispute about whether aims are needed in educational theory, it is perhaps better understood as a dispute about what the aims of education should be.

Michael Hand

See also Analytical Psychology: Carl Jung; Continental/Analytic Divide in Philosophy of Education; Education, Concept of; Peters, R. S.; Scheffler, Israel; Wittgenstein, Ludwig

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Alienation

The modern meaning and usage of the term *alienation* refer to becoming separated or estranged from something or oneself, and come from various philosophical, religious, and theoretical traditions. This entry will concentrate on the Hegelian and Western Marxist theory of alienation, given its prominence in contemporary social and educational theory as well as recent empirical sociological studies.

Hegel and Marx

Georg W. F. Hegel (1770–1831) in his epic work *The Phenomenology of Spirit* (1977) popularized the modern theoretical understanding of alienation using the German words *entfremdung* ("to make alien") and *entäusserung* ("to surrender or divest," as in property). Hegel utilizes both words to characterize alienation in terms of a particular historical period and culture, or "spirit" of the age, which is marked by the separation of the self from itself and cultural and spiritual disunity. Hegel's emphasis on the realm of culture, the self, and ideas inspired a wide range of contemporary work on alienation or "estrangement" in the modern self, in the spiritual realm, and in the relationship between the individual and modern cultural forms. Most significantly, Hegel was a major influence on the young Karl Marx and his own social philosophy.

Marx develops his historical materialism in opposition to Hegel's attempt to reconcile subject and object in the sphere of consciousness instead of on the ground of human material praxis. For Marx, both alienation and commodity fetishism arise *in* capitalist society and describe an inverted form of "species-being" in which human beings become dominated by the objects they produce in capitalist relations of production.

Marx argues that the worker in capitalist society is estranged in several respects: from the product and process of labor, from other workers, and from himself or herself. What is common to and underlies all these aspects of estrangement is the *process* whereby the laborer is transformed into a commodity and becomes an *object* to be bought and sold on the market like any other commodity. The laborer not only loses himself or herself in the object (product), and loses the object to the capitalist, he or she becomes an object and exists in a condition of objectification. Alienation for Marx is not only or primarily an *experience* of estrangement but a material and ontological condition—of distorted historical being formed within the capitalist relations of production. Laborers can only enter into the realm of human being, of human subjectivity, by transcending the alienated labor and ownership relations of capitalism.

In the master work of his later years, *Capital* (1867), Marx extends his earlier analysis of alienation to a thoroughgoing critique of the capitalist mode of production. His seminal critique of political economy proceeds through unraveling the answer to the central riddle of capitalist society—the true nature of the commodity. For Marx, commodification is another way to analyze the inverted/alienated subject–object world of capitalist society, in which abstract exchange value takes precedence over concrete material use value and economic (market) relations come to dominate the whole of human and social life. In capitalist societies, these economic relations are organized by the production, circulation, and exchange of objects to increase the private profit of capitalists, not to satisfy the needs and welfare of the producers. The production and exchange of these commodity-objects, an abstract historical artifact of capitalist ownership, thus become the basis and purpose of capitalist life itself, subordinating real material needs to "alien powers" and the benefits of the capitalist class.

Thus, the commodity form is analyzed by Marx as the major alienating power dominating human life in capitalist society to such an extent that only objects are endowed with value (the "fetishism" of commodities). In this inverted/alienated world, human qualities are transferred to commodities, and the characteristics of objects are transferred to human beings. Moreover, these economic forms appear to have a reality independent of the real human beings who have created them in history.

Lukács and the Frankfurt School

In *History and Class Consciousness*, Georg Lukács transforms Marx's concept of commodity fetishism into his own theory of alienation or "reification" by integrating Weber's theory of Western rationalization into Marx's philosophy of praxis. As with Marx, Lukács aims to uncover the inversion of ideological appearance over reality in capitalist societies through rigorous examination of the very cultural logic of capitalist life. However, Lukács draws on Weber to analyze this cultural logic and its ideological effects in every institution of modern society. His amalgamation of Weber's rationalization thesis and Marx's analysis of commodity fetishism comes together in a critical analysis of the "reification" of capitalist society. Lukács argues that contemporary capitalist societies are pervaded by a Weberian type of instrumental rationality that dominates human beings to such an extent that capitalist society becomes reified; individuals lose the ability to understand their own society or history. While the capitalist economic system is ultimately the basis of

this formal rationality, the reified world comes to have a relatively autonomous hold over social life, including the economy. With the development of reification, he argued, not only individual reason but also the possibility of working-class consciousness was structurally blocked without the use of critical theory. However, by opposing the reified world of formal rationality with a critical dialectical reason, Marxism could explode the realm of objectified appearances and transcend the gap between subject and object in revolution.

Lukács was one of the primary inspirations for the Frankfurt school's critical theory of modern society. In the face of fascism and the postwar spread of capitalist ideology, Max Horkheimer (with Theodor Adorno in *Dialectic of Enlightenment* [1972], Erich Fromm, Walter Benjamin, and Herbert Marcuse) combined the insights of Marx, Lukács, Sigmund Freud, Friedrich Nietzsche, and others into analyses of modern alienation that intensified and deepened the critique of uniquely modern forms of domination. Marcuse's *Eros and Civilization* (1955) and *One-Dimensional Man* (1964) and Fromm's *The Sane Society* (1955) are particularly powerful examinations of the mid- to late-20th-century alienation of self in capitalist society. However, unlike Adorno and Horkheimer, Marcuse and Fromm held out hope for the dialectical negation of alienation—for Marcuse in the aesthetic dimension and student revolt and for Fromm in the integration of self in psychoanalysis.

Freire

In educational theory, the Brazilian educator and philosopher Paulo Freire has been the most influential writer on student alienation. Freire (1921–1997) is a critical theorist in the Western Marxist tradition, and his project, his "pedagogy of the oppressed," is specifically concerned with the transcendence of alienation and oppression through the development of a critical literacy with revolutionary intent. However, unlike previous traditions of critical theorizing, Freire's educational work is intent on explicitly combining theory and practice in his philosophy itself. He established this reputation with his seminal 1972 book *Pedagogy of the Oppressed*, as well as his political practice developing and implementing literacy programs in his native Brazil and throughout the world.

At the foundation of Freire's pedagogy is a philosophical anthropology about the nature of the human being. For Freire, as for Marx, human nature is radically historical. It is only capable of being defined and understood as potentiality—of possibility within conditions of freedom. It is not possible to understand human nature abstracted from the specific and powerful social relations and structures within which we live at any given historical moment. Freire asserts, with Marx, that human nature is defined by the potential for imagination, creativity, and meaning and the free exercise of our productive powers through unalienated work. We are who we can potentially become through our capacity to think, feel, and work under conditions of our own choosing. "Human" being only becomes realized when the individual and community are actualized together in a reciprocal process.

The alienated condition of the oppressed necessitates a revolutionary pedagogy for humanization and critical consciousness. This pedagogy is no mere collection of methods or technical teaching skills to be applied within the framework of traditional schooling. For Freire, the pedagogy of the oppressed must be radically dialogical. Education for liberation cannot be imposed on or imparted to the oppressed; it can only be created with them in the *process* of humanization. Freire develops his pedagogy in contrast to traditional "banking" methods that preserve the status of the oppressed as objects, and advocates a critical and dialogical education that poses problems for students. Teacher and students in this conception work together as equals to actively solve problems about the nature of social reality and, in the process, to change this reality. If consciousness is intentional and active, authentic education cannot be based on depositing facts into it.

Later Works on Alienation

Other major works in recent educational theory and scholarship that have made significant contributions to understanding alienation in schools include Paul Willis's *Learning to Labor* (1981), Carol Gilligan's *In a Different Voice* (1982), Douglas Foley's *Learning Capitalist Culture* (1990), Donna Gaines's *Teenage Wasteland* (1990), Jane Roland Martin's *Changing the Educational Landscape* (1994), Julie Bettie's *Women Without Class* (2003), and C. J. Pascoe's *Dude You're a Fag* (2011), just to mention some of the most influential scholarship.

Benjamin Frymer

See also Critical Theory; Freire, Paulo: *Pedagogy of the Oppressed* and Critical Pedagogy; Hegel, Georg Wilhelm Friedrich; Marx, Karl

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Analytic Philosophy of Education: Development and Critiques

See Continental/Analytic Divide in Philosophy of Education; Peters, R. S.; Scheffler, Israel; Wittgenstein, Ludwig

Analytical Psychology: Carl Jung

Carl Gustav Jung (1875–1961) was a Swiss psychiatrist and the founder of the school of analytical psychology. The son of a Swiss Reformed minister, he grew up in Basel, where he was influenced by the writings of Jacob Burckhardt and Friedrich Nietzsche. He described his formative school experiences in his autobiography, *Memories, Dreams, Reflections*. Graduating from the municipal university, he joined the staff of Eugen Bleuler at the Burghölzli Mental Hospital in Zürich, where he conducted groundbreaking studies of the psychology of schizophrenia. His word association experiments established the existence of emotional "complexes" and led to the creation of the lie detector test. An early adherent of psychoanalysis, he became its leading spokesman and developed a close relationship with Sigmund Freud. After they parted ways in 1913, Jung elaborated an alternate model of the unconscious that focused on its collective dimension, which expresses itself in an imagistic language of dreams, myths, and symbols. With its emphasis on the creative potential of the human psyche, his approach has appealed to everyday people seeking guidance in life as well as artists as diverse as the painter Jackson Pollock and the musician Sting. By way of Joseph Campbell, whose studies of world mythology reached a wide audience, Jung's theory of the archetypes helped inspire *Star Wars*, and one of them, the *persona* ("social mask"), has entered common parlance.

Jung's new psychological approach was promoted in the United States by Beatrice Hinkle, a neurologist who had studied with him in Zürich. This was during the Progressive Era, when the latest ideas from the social sciences were being applied to the problems of a modern industrial society. Many college graduates gravitated to New York City's Greenwich Village in lower Manhattan, where they worked in settlement houses and became labor activists. Some formed the Heterodoxy Club, America's first feminist organization. They also championed educational reform and, with their Montessori training, started New York's first progressive schools, such as Walden, and City and Country. They applied Jung's ideas about child development and creative self-expression in their curricula. Their focus on educating the whole child was evident in art classes and social activities conducted by a psychologically informed faculty. One of them was a school psychologist, Frances Wickes, whose cases confirmed one of Jung's (1974) key observations that "most of the nervous disturbances in childhood can be traced back to a disturbed psychic atmosphere in the home" (p. 39).

Jung was invited to speak at the International Congresses of Education held at Territet, Switzerland (1923), London (1924), and Heidelberg (1925). These were organized by Beatrice Ensor, who had helped found the International Bureau of Education in Geneva under the auspices of the Rousseau Institute, which was later reorganized with Jean Piaget as one of its codirectors.

In his later years, Jung continued to lecture and maintain a busy analytical practice while exploring the relationship of psychology to alchemy, Buddhism, and physics. After World War II, he took a keen interest in the UFO (unidentified flying objects) craze and interpreted it as an emerging myth of the Nuclear Age. The first Jungian training institute was founded in 1948 and is now part of an international network of Jungian organizations.

Contributions to Educational Theory and Practice

Modern ideas about education began with the writings of Jean-Jacques Rousseau (1712–1778), who emphasized the importance of freeing the child from the strict discipline and rote learning common at the time. His ideas were developed further by another Swiss, the pedagogue Johann Heinrich Pestalozzi (1746–1827), who opened up schools that adopted a holistic approach that fostered the emotional and social as well as cognitive development of the child. Jung adapted the 19th-century German educational ideal of *Bildung* ("cultivation") for the 20th century by extending it to include a person's entire life span. "The way of successive assimilations . . . leads in the end to that distant goal which may perhaps have been the first urge to life: the complete actualization of the whole human being, that is, individuation" (Jung, 1974, p. 160).

Jung (1974) felt that the teacher's most important influence was emotional rather than intellectual.

> An understanding heart is everything in a teacher, and cannot be esteemed highly enough . . . the curriculum is so much necessary raw material, but warmth is the vital element for the growing plant and for the soul of the child. (p. 144)

He emphasized what he called the "self-education of the educator." To develop psychologically mature teachers, he advocated that they become aware of their dream life to understand their own complexes and their effect on students. Although this particular suggestion was never adopted, education courses and workshops now routinely address the psychological training of teachers.

Jung's most important contribution to practical psychology was his theory of extraverted and introverted personality types. Although there is no such thing as a pure type, people tend to exhibit a primary orientation to either the outer world or their inner, subjective world. In an extraverted society such as the United States, introversion is routinely misinterpreted as shyness and labeled as a negative trait. Besides these general types, Jung further distinguished four different psychological functions, one of which becomes dominant during a person's development: (1) thinking (what something means), (2) feeling (what its value is), (3) sensation (what it is), and (4) intuition (what it might become). Personality assessment tests are now routinely administered in business and counseling, one of the most popular being the Myers-Briggs, which was developed by followers of Jung.

A major development in educational psychology that generally supports Jung's discoveries has been the work of Howard Gardner and his theory of "multiple intelligences." Although there is no one-to-one correlation, both scholars do postulate a variety of naturally occurring functions or intelligences that need to be recognized by educators. More recently, Gardner has considered the possibility of spiritual or existential intelligences that would lend support to Jung's idea that a religious instinct is one core component of the human psyche.

An appreciation of multiple intelligences and an awareness of the changing nature of literacy in a new, visual culture means that teachers must adjust their practices. They must learn to cultivate the imagination as well as the intellect of their students. Jung's work on the role of symbols in history and culture can be a unique tool to do just that. Activities that incorporate an art component can be not only emotionally satisfying for students, especially for those struggling academically, but also a valuable diagnostic tool for teachers trained in their use. Literary and film studies can benefit from a Jungian approach by including a consideration of archetypes such as the "hero" and the "shadow" (the "Other" who represents the unacceptable aspects of oneself). For example, a study of the personalities and the scapegoating in William Golding's novel *Lord of the Flies* can be deepened by an understanding of Jungian psychology.

Jung's influence on the field of education has more often been indirect than direct. His pioneering effort to introduce educators to the insights of psychology can be seen in the courses now required for an education degree. His observation that the entire family unit is the locus of serious childhood problems is a fundamental tenet of family therapy. His special concern for the learning potential of the second half of life is now reflected in the proliferation of adult education courses. Jung's broadly humanistic approach, emphasizing the cultivation of the innate capacity for learning, is in contrast to the reliance on standardized testing that is characteristic of the data-driven agenda of contemporary American education.

Jay Sherry

See also *Bildung*; Freud, Sigmund; Multiple Intelligences: Howard Gardner; Rousseau, Jean-Jacques

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Anthropology of Education: Main Traditions and Issues

It is generally said that the anthropology of education, as a subfield of the discipline, began with a conference bringing together some senior anthropologists and professionals from the world of American schooling. The proceedings of this conference were published in 1955; they were edited by George Spindler, whose leadership established the field. But it is also true that anthropologists had been interested in education from the earliest days of the discipline. As they noted the variability of human ways, they began to wonder how infants with the potential to learn any language or participate in any society transform into adults with specific forms of knowledge, habits, and blinders to other forms of knowledge. Depending on the theoretical inclinations of the authors, the stress was put on psychological processes most powerfully active in the first few years of what was often labeled "enculturation."

Margaret Mead's *Coming of Age in Samoa*, published in 1928, may be considered the first educational ethnography of that early period. It inaugurated a large literature on what came to be known as "learning one's culture," and it had a massive influence on the politics and practices of American schooling. During the same period, another group of anthropologists, mostly from England, came to education because of their interest in initiation rituals, particularly when initiation involves the imparting of esoteric knowledge. From that angle, becoming a particular type of adult in any complex society with multiple roles necessarily involves explicit processes and institutions that produce internal segmentation and differentiation. In such societies, one does not learn "one's culture," since one only learns the kind of knowledge particular to one's place. Anthropologists of this tradition often write about "socialization" into "roles" and claim the French sociologist Émile Durkheim, rather than Sigmund Freud, as their inspiration.

Durkheim (1922/1956) wrote extensively about schooling and actively participated in the intellectual movements that led to the establishment of French public schools at the turn of the 20th century. American anthropologists did not deliberately turn to American schooling until the 1950s, in the wake of their success in influencing major policy decisions regarding the postwar political reconstitution of Japan. Mead had been involved in that work, and she was quite sure that anthropology could and should be applied to "the problems of our times." She had written about school teachers in the 1940s and was one of the prime movers of the conference that began the institutionalizing of the new subfield. She encouraged its establishment in the leading schools of education. Soon, at Columbia, Stanford, the University of Pennsylvania, and others, new programs attracted both young and seasoned anthropologists, students, and, perhaps most fatefully, school professionals who saw in the emerging work a powerful alternative to the then usual ways of learning about public school teaching, about students, and about thinking through how to reform schooling. Many professionals were initially attracted by the ways of knowing that anthropology took somewhat for granted. Against the experimental methods of most psychology and the hypothetico-deductive methods of much of sociology, anthropology offered "ethnography" as an inductive methodology for discovering what human beings, including schoolchildren and teachers, can do, why, and how.

The Anthropology of the Failures of American Schooling

The activist and reformist stance of the 1954 conference remains characteristic of the anthropology of education and, arguably, one of its weaknesses. By the 1960s, anthropologists, as well as some sociologists who also used ethnographic methodologies, actively participated in the elaboration of the rationales for many of the most significant policies collectively known as "The Great Society," particularly programs such as Head Start and the public television program *Sesame Street*, which looked at

schooling, or preparation for schooling, for part of the solution to the problems that had been recognized. Anthropologists soon also became the leading critics of some of these rationales, particularly when these led to policies designed to "remedy" the consequences of various "deprivations." Given that these rationales were often grounded in the work of developmental and cognitive psychologists who had hypothesized that failure in language socialization might "explain" school failure, and thus poverty, much of the anthropological work of the period developed alternate theories about, and methods for studying, the relationship of language and culture to the production and assessment of knowledge. In response to much research by psychologists and sociologists, anthropologists of education focused most of their attention on where deprivation supposedly started—they went into homes and communities, to find out how, in the details of their lives, people managed the complex interaction between local conditions, experiences in school, and eventual adult careers. For the following 30 years at least, most research and debate in the field addressed the matters of social and cultural reproduction that were driving reformist concerns.

Typical of these evolving concerns was the controversial work of a famous anthropologist, Oscar Lewis, and the subsequent critique of this work by other anthropologists. Lewis brought to his entry into public policy well-developed theories of social structure and its impact on socialization and the shaping of adult personalities. These led him to propose, in the mid-1960s, that the difficulties Puerto Ricans appeared to have in the United States had something to do with a "culture of poverty" (Lewis, 1966). Lewis had not written specifically about education and schooling, but his work resonated powerfully with many in the policy field, perhaps because it fitted well with other psychosocial theories and perhaps also, more darkly, because it fitted well with various stereotypes—as some critics charged.

In many ways, Lewis's work remains significant because it inaugurated a problematic that still guides much research in the anthropology of education. There were many versions of Lewis's hypothesis in the 1960s, most of which centered on the relationship between the language of the home, the language of the child, and the language of the school. Psychologists and sociologists proposed various mechanisms that would explain why many children have difficulty in school and how to address these difficulties. Anthropologists generally were not so sure, and their observations in homes, schools, streets, and communities led them to propose other kinds of mechanisms. Much of this ethnographic work ended with calls to reform schooling to build on what Luis Moll (2005) eventually called the "funds of knowledge" students gain through their participation in families and communities. The first decade of this work established that what can look like disabilities in, for example, language processing when seen from the point of view of psychology may simply be the product of methodologies that make sensible responses to local conditions look like disabilities. William Labov (1982) remains famous for having demonstrated that the "silence" of Black children in the schools of the 1940s and 1950s had little to do with inner abilities or poor parenting and much to do with their relationships with White teachers. This reticence made sense in precivil rights schools, just as defiant opposition might make sense in urban schools half a century later, as noted by John Ogbu and Herbert Simons (1988).

This early research on language use in classrooms opened the way to bringing forward the difficulties of immigrant children entering school with a language other than English and then being tested on their abilities for schooling in English. Over the following decade, the focus on language processing was broadened to include concerns with "cultural" mismatches between children and schools (see, e.g., the work of Shirley Brice Heath, 1983). Even as academic anthropologists conducted a vigorous critique of the concept of "culture," it became one of the central organizing themes of proposals for school reform. As the anthropology of education became more fully integrated within reform politics in the United States, it became essential in the justification for bilingual or multicultural education, for example. Some of this new research used concepts such as social or cultural "capital," with the suggestion that the lack of such capital might explain various achievement gaps. At its best, such work escapes the problems associated with the use of "culture" as explanation. But it often collapses back into an assumption that "capital," like "culture," is a property of the individual child.

But, some argued, things are not really so clear-cut. Most powerful in making anthropologists face what is troublesome about schooling and its outcomes has been Pierre Bourdieu's work on the place of schooling in the reproduction of contemporary complex societies (Bourdieu & Passeron, 1977).

Bourdieu presented strong evidence that the production of legitimated school failure is an essential feature of modern schooling and, by implication, one that is not amenable to reform in curriculum or pedagogy. Students, in this perspective, do not fail in school (and thus fail to get into the better positions of a modern society) because of either personal disability or cultural mismatches but because schools are organized to produce failure. Simply put, all recent political systems that present themselves as meritocracies, particularly when they attempt to combat all forms of birth privileges (whether based in race, ethnicity, class, gender, etc.), have given schools the responsibility of assigning merit in politically unassailable terms. Practically, this means that schools must fail most students and must ensure that the scope of failure increases as one reaches the most respected, powerful, or remunerative of positions. Many teachers are unhappy about the situation, but they are also always "agents of the state," as Michel Foucault argued. Bourdieu proposed that the mechanisms through which those who fail in school (and indeed those who succeed) include a mediating process between social conditions and outcomes. Bourdieu described this process as involving a "habitus," which he defines as a "disposition inculcated in the earliest years of life and constantly reinforced by calls to order from the group" (Bourdieu, 1970/1977, pp. 14–15). Others, such as Hervé Varenne and Ray McDermott, have argued that it is unnecessary to invoke such a mediating process and, worse, that it can lead to representing those who fail in school as ignorant and in need of remediation. This can open the way to a return to "culture of poverty" explanations. While most still eschew the phrase and use other labels, invoking habitus as explanation for school failure remains commonsensical for some anthropologists.

One alternative is to reveal how the mechanisms of school failure are produced in the moment-to-moment construction of the most routine of school sequences (McDermott & Tylbor, 1983). This approach may demonstrate the extent of what Bourdieu had called "symbolic violence" in schooling. It also insists that all people submitted to this violence have a practical intelligence that cannot be minimized. From this perspective, the problem is not that children do not learn how to read because of some internal properties or psychological deficit. The problem arises as the children are publicly identified, by an agent of the state, as not knowing how to read in a certain way at a certain time and then are treated, for future politically legitimate purposes, on the basis of this identification, however loosely related it is to the practical task at hand. Approaching schooling from this perspective has produced abundant ethnographic evidence that those who live and raise their children in the worst of conditions can talk about the barriers they encounter and act deliberately to cross them. This suggests the reality of forms of practical awareness that observers can easily miss, particularly since the forms of talk and action used by those who are characterized as failures may not correspond to their own. This opens interesting questions about what is technically called metacommunication and metapragmatics—questions that remain wide open.

Initially, the work on the tactics of the poor was presented as evidence of practical "resistance" (Willis, 1977). This work has sometimes been criticized for romanticizing the condition of the poor and oppressed. But the best of the work does not imply that resistance will be successful in reforming oppressing situations. Rather, it insists that the oppressed have, minimally, some understanding of their conditions, that they are active, and that reform does not need to proceed through the advantaged leading them through various programs designed to raise consciousness or understanding. The classical anthropological stance, one the discipline inherits from the early work of Franz Boas or Bronisław Malinowski, is that the poor, like the so-called primitives or colonialized natives, probably understand their physical, social, and political conditions better than any observer and that scholarly or policy-oriented discussion of that understanding requires an extensive period of learning from the people themselves as they produce their own lives—what came to be known as extended, systematic, "ethnographic fieldwork."

Ways of Knowing: Classic Ethnography and Its Anthropological Critics

The anthropology of education had inherited from its roots in Boasian culture theory a strong sense that the way to get to know people is to spend time with them, in the routine settings of their everyday lives. The field also inherited, from Mead perhaps more than anyone else, the sense that what one learned through the resulting ethnography was best reported in an evocative fashion, with direct statements about the application of the new knowledge

to issues current among popular audiences. Mead insisted, with a surprising amount of success, that rare if not unique practices in faraway lands would help us with a more systematic understanding of common practices in the United States that appear "natural" to humanity but can be shown not to be so. As the field evolved into what became known as "culture and personality," many anthropologists also insisted that their reports indicate how practices and patterns affected the lives of individuals. The most powerful work of that period, and one of the earlier ethnographic reports in the anthropology of education, may be a 1963 report on the travails of American adolescents in school, which Jules Henry provocatively titled *Culture Against Man.*

As Henry published his report, several lines of critique were transforming the field. These were theoretical critiques of methodology: What sort of knowledge did what kind of ethnography produce? And, most radically, did ethnographic work produce the kind of knowledge that had the very kind of practical use, and indeed political use, earlier anthropologists were convinced it had? Initially, as mentioned earlier, many feared the focus on individual suffering, when this focus led to assumptions about internalization and misunderstanding that were actually built into all cultural anthropology, as well as sociology influenced by the work of Talcott Parsons. This theoretical critique, as such, did not indicate how to modify methodologies. But new developments opened alternative routes that had not yet been systematically explored. Early ethnographic methods could not be described easily, and the work that was published appeared impressionistic. In the 1940s, Gregory Bateson, when working with Mead in Bali, had explored new techniques for recording and analysis made possible by film. These approaches did not have a mainstream impact until the entry of sociolinguists into the world of the anthropology of education. Inspired by Malinowski's late work on the analysis of texts in use, they insisted that classic issues in determining the "meaning" of linguistic forms and texts could be addressed systematically by examining how exactly words were used in practical situations. The greater availability of audio and video recorders allowed for just the kind of analyses that Malinowski and Bateson, as well as William Labov, Dell Hymes, and other figures, had called for. This led to a flourishing of what came to be known as "micro-ethnography"—often to the dismay of those who developed the techniques as a privileged form of doing just what Mead had done: using the rare and unique to make broad points about the organization of modernity and the constraints it can place on people. Most ambitious among the early efforts may be McDermott's use of a few seconds of interaction between an Anglo teacher and a Puerto Rican child to cast doubt on the broad "explanations" of school failure that invoked "cultural mismatches."

In parallel, a more radical critique of ethnography was being developed within anthropology itself as many anthropologists challenged the very possibility of gaining systematic knowledge about human beings. Clifford Geertz (possibly the most influential American anthropologist of his generation) and his students argued that all anthropologists could do is "interpret" what they experienced in the field (Geertz, 1973). They proposed that the discipline be presented as a branch of the humanities rather than as a social science and, thereby, fundamentally challenged the Boasian position. It would be fundamentally impossible to learn about human beings in what most distinguished them from other animals—that is, in their production of symbolic means to address their environment (in other words, their "culture"). Thus, one could not discover (rather than imagine or interpret) what human beings can do. The kind of close participation and intensive observation that had been the hallmark of anthropology only produced a personal experience for the ethnographer that could not be translated into general knowledge. If so, then cultural anthropology should not be applied either internationally to issues in colonial administration and development work or, by implication, to issues of educational policy in the United States. Attempting to apply anthropology ended with the co-option of the anthropologist into the structures of entrenched power.

Anthropologists were left in a difficult position. The Geertzian critique made sense, particularly as it was developed by Michel Foucault. Many in the field started to "deconstruct" older texts in order to highlight how they were grounded in unexamined ideas about sex or gender, race, ethnicity, ability, and so on. They called for research that would be deliberately sensitive to these matters. But, like those who accepted the Geertzian critique of ethnography, they did not offer clear methodologies or techniques. Many actually began to argue that ethnography was too narrow and that what was called for was "qualitative" methodologies. But these remained very hard

to specify or justify. And their relevance to a deeper understanding of schooling, and education, could easily be questioned—as it soon was.

Recapturing an Anthropology of Education

The methodological debates sometimes eclipsed the more fundamental conversations about culture and poverty, including the cultural production of poverty and cultural productions by people caught in poverty and other difficult conditions. However, these conversations led to the reopening of a preliminary question that the rush toward policy relevance elided: What is the anthropology of education an anthropology *of*? One can also ask what a concern with social reproduction in modern societies has to do with education. Given the central role of schooling in this reproduction, it is not surprising that most research in the anthropology of education takes place in and around schools, and particularly around American schooling. It is not surprising either that the questions anthropologists ask are the very questions the people of the school ask.

The initial stance once taken by Mead remains. She and the other anthropologists who organized the 1954 conference had invited superintendents and other professionals to tell anthropologists what they needed help with. A half-century later, most research in anthropology is driven by the positionality of the people who fund it and to whom it is addressed—and these mostly consist of the people intimately concerned with the school, from teachers to administrators to policymakers in the many layers of government concerned with schooling.

The focus on American school policy is understandable, but it is also quite limiting. An early version of the critique was formulated by a historian, Lawrence Cremin, who was himself powerfully influenced by anthropologists at Columbia and particularly by Mead. Cremin was instrumental in the establishment and staffing of the program in the anthropology of education at Columbia's Teachers College. He also began to wonder what a history of education should be a history *of*? He answered decisively that it should not be only a history of schooling (Cremin, 1976). The same question is now being asked of the anthropology of education and the same answer given (see Varenne, 2007). As the earliest anthropologists had well known, it can never be a single institution that transforms an infant into a particular adult able to participate in particular positions for particular purposes at particular times, and it is never a mechanical process.

In recent years, the most powerful work moving anthropologists back to this fundamental intuition may be that of Jean Lave and her colleagues. Lave was one of the several anthropologists Michael Cole, a cognitive psychologist, brought together in his Laboratory of Comparative Human Cognition. He asked them to help him conduct a systematic critique of theorizing in cognitive psychology, particularly as it is concerned with the identification of inner psychological abilities and with learning. Given that human beings always use and reveal their cognition in the sites of their interactions with other human beings, it does not make sense to explore this cognition in isolation, apart from interaction. Taking such a stance has major methodological consequences as it requires one to research learning in the social settings where what is to be learned is used. Ethnography becomes the privileged method, and anthropology, with its long tradition of developing and critiquing the method, becomes the sensible discipline to engage in the renewal of cognitive studies, particularly as it concerns learning and, indeed, education.

Lave first went to Liberia to observe tailors and their apprentices as they dealt with complex mathematical calculations. She then went into American supermarkets to observe other people doing other kinds of calculations (Lave, 1988). Her colleagues and others started looking at midwives around the world, alcoholics, navigators, and others, as they developed complex forms of knowledge through their participation in what she called "communities of practice." The phrase was introduced in her work with Etienne Wenger (1991) and has had a controversial history when further writing, particularly by Wenger, did not quite mention that the original formulation emphasizes movement, transformation, control, and identification and was not simply pointing to a more comfortable environment for effective learning. Lave's work has contributed to the renewal of social research in general that is also being moved by the works of ethnomethodologists like Harold Garfinkel (2002) and anthropologists inspired by his work, such as Bruno Latour (2005). This emerging tradition has had a distinct impact on recent anthropology of education, particularly because it addresses the broad contexts of educational activity, including schooling, as in the work of Jill Koyama (2010), and because it offers new justifications for

ethnographic research. This work allows anthropologists to argue more systematically that schooling, with its state-prescribed curricula and pedagogies, is but a special case of universal efforts to transform conditions or to prevent the transformation of conditions. Education, these new research traditions establish, is indeed a ubiquitous phenomenon that even includes the education about schooling and its reform that is conducted not only in the centers of political power or influence but also in the familial and communal peripheries where curricula and pedagogies are discussed. To mention but one recent ethnography among many, Fida Adely (2012) has recently reported on adolescent girls in a Jordanian high school as they discuss the various forms of Islam by which they are multiply confronted. Adely's work is paradigmatic of the work of a new generation of scholars who demonstrate what can be done when one frees oneself from the narrow problematics proposed by school people to anthropologists.

This recent work is adding a significant twist to Cole's and Lave's concerns. Given their moment in the intellectual history of cognitive studies and the political history of the United States, it made sense to place their concerns under the banner of renewing the theories of "learning." It thus made sense to look at tasks like learning mathematics and syllogistic thinking, for it seems clear that one "learns" how to calculate proportions or how to navigate a boat. But it is not so clear that one "learns" Islam or Christianity or secular humanism. "Becoming" a Muslim, Christian, humanist, and so on, is more akin to entering a world of murky debates than to absorbing a worldview. It is not so much a matter of learning skills or dispositions as a matter of placing oneself in some relation with the various versions of the particular "religion(s)."

Future Directions: Developing New Ways of Knowing to Face New Challenges

When Mead went to Samoa or when George Spindler entered into dialogue with school people in America, the issues may have appeared simple. People learned their culture in everyday interaction, and enlightened professional intervention might guide this learning to build a better democracy. John Dewey had prefigured the ideological movement within which anthropological research on education easily fit.

Half a century later, things are not so clear, either on the theoretical or on the political front. Dewey's call for an education that fosters democracy remains, but the emphasis on shaping minds and on learning is now faced with the evidence that minds are not quite so amenable to shaping and that learning is only one aspect of education. Human beings, as they transform themselves and their environments, do not simply learn. They also question, analyze, seek help, explain, attempt to convince, instruct, teach, assess, and so forth. The only plausible postulate at this moment in the history of the field is that all human beings are involved in this complex process of education, not just a few specialists. The correlate of this postulate is that education is an ongoing process throughout the life span and not only a temporary moment in life (whether the first years of life or the years of schooling). From the time an infant first encounters her parents to the time when, at the end of her life, she enters the final seconds of consciousness, the conditions, contexts, and communities she will encounter would have been changing, often in fundamental ways—whether because of war, migration, natural disasters, or (more prosaically in the world of the past two centuries) new technologies. Tablet computers, for example—like steam engines, electricity, and telephones had done—present new challenges and new opportunities for questioning, analyzing, and assessing. The challenges to the field are all the greater now that the radical critiques of ethnography have made it more and more difficult to reach the audiences that the anthropology of education, since its founding, has struggled to reach. At the turn of the 21st century, these audiences appear only to trust "data-driven" research using large "data sets" drawn from the population to whom a policy is directed. It appears fantastic that anthropologists should claim that one learns best about the most common issues in the life around us by looking systematically at rare practices in populations far removed from the ones of concern. "Policy cannot be drawn from anecdotes" is something anthropologists keep hearing from their audiences, and they have not found an effective retort. The fact that the qualitative research of the past 30 years often presents itself as reporting on the pluralities of individuals and their (in the aggregate) interpretations actually reinvigorates focus on systematic sampling and the like and also strengthens the tendency to dismiss earlier ethnographic research that had always been stronger at sketching practices, patterns, and organizations than at outlining what the individual persons living these actually experienced.

Two related responses are taking shape in the anthropology of education. They are rooted in a systematic critique of the hypothetico-deductive methods that are now again dominant. What is known as "ethnomethodology" began in the 1950s as an empirical response to Parsons and his attempts to draw grand theories of action (Parsons & Shils, 1951). The critique was led by Harold Garfinkel, who inspired a major body of work that demonstrated again and again that only careful observation of people in their routine settings could tell us anything about what human beings can do and what they actually do. In so doing, Garfinkel offered a new justification for the old Boasian argument about the special value of anthropological ways of knowing. Research inspired by ethnomethodology keeps illustrating, first, that human beings are more imaginative at adapting in environments than theoreticians—or even local practitioners—can imagine and, second, that there are systematic methods for discovering these adaptations and reporting on the discoveries. Boas made the argument cross-culturally and cross-historically; the new research is making the same argument by highlighting the multiplicities of adaptations to conditions within modernity itself. One does not need to go around the world to find the rare and the unique. One only has to look carefully at what is happening down the street, if not down the corridor. The most significant recent development in this recovery of systematic ethnography draws inspiration from the work of Latour, who showed what can be discovered by conducting ethnography in biological research laboratories or in other national elite institutions. Research such as Koyama's may lead to the moment when anthropological ways of knowing can again participate at the center of conversations about who we are, what we do, and how we might reform the patterns that make individuals suffer—at the broadest of levels.

An anthropology of education must thus be an anthropology of the deliberate attempts to face and transform conditions, whether to reproduce traditions or to produce new ones. These attempts can involve a few people in small locales, or they can involve whole populations searching for new political forms even as they attempt to reform institutions or practices that are shown not to be leading where earlier generations had hoped they would lead. In the human world of the past few 100 years, and as the ongoing experiment that is public schooling continues and spreads around the globe, it is clear that any anthropology of education will also be an anthropology of schooling that has confronted the methodological and theoretical difficulties the evolution of the field has made salient. But precisely because an anthropology of schooling is so important to our future, it must also remain encompassed by an anthropology of education.

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See also Actor–Network Theory: Bruno Latour; Communities of Learners; Dewey, John; Qualitative Versus Quantitative Methods and Beyond

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Apple, Michael

Michael Apple is often described as the world's leading sociologist of education. He was born in Paterson, New Jersey, in 1942. He began work as a substitute teacher at age 19 and later became a teacher union organizer and political activist. Since 1970, he has worked at the University of Wisconsin–Madison and is now the John Bascom Professor of Curriculum and Instruction and Educational Policy Studies. Apple's work revolves around three main interrelated axes—(1) the cultural politics of education, (2) equity and social justice, (3) and democracy and critical pedagogy. These concerns interweave over a 40-year period from *Educational Evaluation: Analysis and Responsibility* (1974) to *Can Education Change Society?* (2013). At the heart of this work is the simple question: What counts as official knowledge? That is, on the one hand: What is the school curriculum? Who decides? Whose knowledge is taught? And how do those decisions relate to economic structures? And on the other: What is the relationship of the curriculum to the life experience of learners? And what are its implications for social equity? Thus, a considerable body of Apple's work focuses on contestations over what is to count as school knowledge. In his early work, a key point of emphasis was the complex relations between state politics and the textbook industry, which is discussed in the 1991 book edited by Apple and Linda Christian-Smith, *The Politics of the Textbook*. According to Apple, the textbook is a neglected basis for understanding how legitimate culture is defined in the classroom, particularly as the state becomes more involved in determining the types of knowledge to be taught. In more recent work, he examines commodified educational technologies and pedagogies, focusing on particular examples like the introduction of Channel One, a privately run TV news program that includes advertising, into schools. As he points out, restless capital is ever eager to exploit new market opportunities and make a profit, through the production of hardware, software, and curricular materials for home learning. This entry discusses Apple's analysis of a conservative alliance in education and its implications for equal opportunity, his commitment to democracy in education, and his emphasis on the importance of viewing school culture and policy in a historical context.

Conservative Restoration

Apple's later work undertakes a careful and complex analysis of the politics of conservative restoration, both its "residual" and "emergent" forms, and its constituent parties: neoliberals, neoconservatives, authoritarian populists, the new middle class, and the Christian right. He is very clear that this ideological formation is *built* or *constructed*. He examines the shifting alliances among these groups around educational issues and their attempts to establish a "New Right" educational common sense, or a translation of economic and religious doctrines into an *organic* ideology, and therefore to dictate public discourse around issues of race, class, and gender. This is set over and against a nuanced analysis of the crisis of the *social democratic accord*, within which government became the arena for establishing the conditions for more equal opportunity in education. He

acknowledges both the successes of the New Right, and the failures of the social democratic accord, and the ability of the right to co-opt and translate the everyday concerns of many parents into a set of simple and powerful and *popular* messages for educational reform. However, in relation to these successes and failures, he also seeks to capture and analyze the struggles, resistances, and creativity of those teachers and schools that exploit opportunities to think and act differently about education, for example, in *Democratic Schools* (with James Beane, 2000) and *The Subaltern Speak: Curriculum Power and Education* (with Kristen Buras, 2006). The struggles attended to here focus around recurrent conflicts between *person rights* and *property rights*, between equity and efficiency, welfare and responsibility—that is, "freedom to" as against "freedom from." However, these struggles, he argues, cannot be articulated at the theoretical level. Apple often refers to himself as a secretary—recording and representing the voices of those who struggle against oppression and "common sense"—a correspondent of hope. Running through this history of enacted critique, there is the "language of possibility"—the possibility of thinking "otherwise," of democracy in education, of "democratic schools," and "a democratic way of life" (Apple, 2000, p. 7). Nonetheless, as he is at pains to point out, this "language of possibility" "must also be grounded in an unromantic appraisal of the circumstances in which we find ourselves" (Apple, 1986, p. 178). He takes up the language of possibility in sustained fashion in his 2013 book *Can Education Change Society*? Critique and possibility are grounded for him within a history of struggles, that is a history of achievements as well as of defeats and setbacks. One of the things that make his work attractive to so many scholars and students is this critical opportunism—recognizing what might be done, even while remaining fully aware of the inauspicious forces of circumstance.

A Decentered Unity

Just as he is clear about the complicated and sometimes unstable alliances that make up the New Right, Apple sees the radical alternatives to this hegemonic block as what he calls a "decentered unity," a loose and sometimes uneasy grouping of counterhegemonic movements and organizations with shifting perspectives and goals, which are not immune to racist and sexist tendencies. The tensions and contradictions of policy and political interest are specified in a number of ways in Apple's analyses. For example, with Tom Pedroni, he looks at the support of Black parents in Milwaukee for educational vouchers, and more generally, in a number of papers, he considers the complexities of Black homeschooling. He is certainly not unsympathetic to the fears and aspirations of Black parents whose children are marginalized and abused in public schools, and who seek alternative possibilities for educational success, but he is also concerned about the long-term implications of such moves and policies for public schooling and the possibility of achieving a democratic education system.

Apple's work is continually grounded in "worked through" examples. In *Cultural Politics and Education* (1996), he and Anita Oliver examine the formation of a conservative agenda in one school district, making clear the contradictory complexities involved. In contrast, he has written several pieces (some with Luis Armand Gandin) on the Citizen School Project in Porto Allegre, Brazil, and the attempts to engage the local community both in local educational administration and in changing classroom practices.

Apple is often referred to as a critical pedagogue or neo-Marxist, and both labels are to a degree appropriate, but he is always willing to draw on a variety of theoretical tools and positions to achieve his analytical ends—"to think neo and post together" as he puts it. He is also clear about his debts to Antonio Gramsci, Raymond Williams, and Paulo Freire. If he is anything, he is a Gramscian: He is concerned about content; about political literacy; about political struggles in relation to common sense, practical consciousness, and hegemony (*Official Knowledge*, 2000); and about using theory to understand practice. He argues that economic dominance is "coupled" to "political, moral, and intellectual leadership." His work is founded on "concrete historical analysis" and always begins from the complexities of human experience rather than from theory. Apple's work is historical, and it represents the complex and extended processes of struggle and compromise, the temporary nature of social authority, focusing on cultural questions as well as material ones and avoiding a necessitarian logic.

Criticism and Activism

Critics from orthodox Marxism tend to focus not only on Apple's eclecticism, especially in recent

work, but also on his refusal to simplify—that is, his commitment to nuance and complexity, his emphasis on culture, his unwillingness to give straightforward privilege to class in his analysis, and his refusal to give value to abstract theory for its own sake.

It is possible to fully grasp and appreciate Apple's work only by going beyond his writing. To concentrate on the texts is to understand only part of what they represent and whom they represent. They not only present a body of careful research and incisive scholarship, they are also political interventions, irritations, and challenges. Indeed, Apple often appears in his texts: *Teachers and Texts* begins "On a trip to Washington, D.C., recently, I visited an elementary school less than a mile from the White House." He is an eyewitness to and a participant in the politics of education. He is an activist from his trade union origins to the present day. He travels widely to speak about and speak to contemporary issues. Apple's work is defined by totality and detail, sweep and grounding, theory and practice, global and local, personal troubles and public issues—the work of the *sociological imagination*, and the escape from stultifying orthodoxies. This is an ongoing project and a set of continuing struggles.

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See also Curriculum, Construction and Evaluation of; Freire, Paulo: *Pedagogy of the Oppressed* and Critical Pedagogy; Marx, Karl; Reproduction Theories

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Aptitude–Treatment Interactions: Evolution of Research

Beginning in the 1960s and continuing through the 1980s, the educational psychologists Lee J. Cronbach and Richard E. Snow spearheaded a program of research connecting key ideas from the scientific disciplines of differential psychology, which looks at the differences among individuals and groups, and experimental psychology, which uses empirical principles and procedures. As Cronbach argued in a seminal paper addressed to the American Psychological Association in 1975, research in these two disciplines had heretofore progressed independently, with different foci and traditions, though both were contributing important understandings to the domains of teaching and learning (see also earlier writing on this topic, e.g., Cronbach, 1957, 1967). Snow had begun examining the effects of instructional treatments on performance as a doctoral student at Purdue University. He joined Cronbach at Stanford University in 1966, and together they founded the Stanford Aptitude Project to study the extent to which student performance under different instructional conditions depended on individual differences.

The culmination of that work was a scholarly book that examined and critiqued extant literature, titled *Aptitudes and Instructional Methods: A Handbook for Research on Interactions* (Cronbach & Snow, 1977). Given the stature of the authors, their reputations for exceptionally rigorous methodological critique, and the number of years they took to complete this volume, its message for ongoing research and practice in the fields of education and psychology was much anticipated. The book reported extensive evidence to support a theory about designing instructional treatments to fit different patterns of aptitude. Aptitude was defined broadly, to include any personal characteristic predictive of response to instruction in a particular educational situation (i.e., an aptitude is not limited to scores on a test of ability but can be, e.g., a work style or a personality trait). Aptitude–treatment interactions, or ATI, are the technical representations of this predictive effect; in the most general terms, studies finding ATI indicate that students with one level of aptitude perform better with a given form of instruction than those with other levels and, often,

vice versa. Although Cronbach and Snow demonstrated the ubiquity of ATI in educational experiments, the many flawed designs and methodological problems they found in reviewing the research led them to emphasize improved rigor in the handbook at least as much as substantive results. This entry discusses the research that has further developed Cronbach and Snow's ideas on individual differences in learning, how these ideas have been put to use in the classroom, and recent educational trends based on ATI theory.

Unfortunately, the anticipated practical use of Cronbach and Snow's handbook was never realized. Instead of designing more rigorous studies that might establish consistent results for given ATI hypotheses as Cronbach and Snow intended, ensuing generations of educational psychologists have, with some exceptions, abandoned the pursuit. Instead, subsequent scholarship has redefined the ATI phenomenon and design to better explicate underlying theory that might provide guidelines for teaching and instructional practice. Reconceptualizations focus on processes that occur between pre- and postexperiment assessments, both within students (aptitude processes) and treatments (instructional processes and procedures). Modern research in the tradition of ATI attempts to understand how and why different learners respond to certain instructional methods more than others: why some learners perform better, whereas others perform worse, under the same treatments. It also seeks to provide a theoretical or a conceptual framework for understanding why a specific instruction is more or less effective, given different learners' aptitudes.

Adapting Instruction to Individual Differences

The key premise of the ATI paradigm continues to be that stipulated by Cronbach in his landmark address; namely, that instruction should be adapted according to individual differences in individuals or groups of learners. However, aptitudes are now seen as "complexes," or profiles of characteristics, that account for the end state of learners. They are likewise defined as the *capacities* of learners to gain proficiency. An assumption is that learners bring to a task a unique set of propensities or aptitudes that will lead them to react in a particular way to the method and content presented in a particular instructional situation.

One of the more enduring ATI results reported by Cronbach and Snow is that learners classified as lower or higher in general intellectual ability differentially benefit from more or less structured methods of instruction. Lower-ability learners perform better when they receive a "direct" form of instruction that provides structured guidelines for completing tasks, as explained by a teacher or the task's explicit instructions. The evidence suggests that these instructions often support lower-ability learners sufficiently to reduce the cognitive burden. In contrast, higher-ability learners tend to benefit when given indirect instruction that is less structured. When asked to push harder, and "discover" key principles in primarily "learner-centered" tasks, these learners can work their way through problems independently or in concert with peers. Similar examples of ATI with more or less structured learning tasks have been reported with some affect variables such as anxiety and reactivity, and some motivational orientations, such as mastery or performance orientation (see Corno et al., 2002).

Current research focuses on explanations for results such as these, extracting consistent patterns from a variety of studies, making sharp distinctions between microlevel instructional processes, and moving interventions into natural settings. Work on the practical side seeks ways to moderate and mitigate ATI effects; one example is the professional movement to promote "differentiated instruction" (see, e.g., Tomlinson & Imbeau, 2010). Within the broader category of adaptive educational opportunities (Corno, 2008), differentiation promises a solution to the practical dilemma that teachers must instruct students as class groups at the same time that they hope to treat them as individuals within a class. One principle of differentiated practice is that there are many different hypothetically beneficial instructional approaches suitable for different learning profiles; if the teacher cannot reach students one way, another form of instruction may be tried. Differentiated instruction thus aims to capitalize on students' strengths while circumventing or compensating for weaknesses.

An important assumption of models for differentiating is that, although students vary in their readiness for learning, readiness can be developed with appropriate instruction. The concept of readiness for learning has a long history and diverse definitions. In this context, readiness is defined as the extent to which a student is prepared to learn in a given learning situation. Thus, the student's profile of learning strengths and weaknesses is used by teachers to design, customize, and adapt instruction

tailored to fit that profile in a manner that moves the student gradually toward independence.

A difference between differentiation practice and the traditional research-oriented search for ATI is that methods used to assess learning needs and establish profiles are often qualitative or captured informally by teacher observation and student work samples. ATI studies typically use quantitative indicators of aptitudes and outcomes, such as standardized assessments of ability or personality. When practitioners rely on informal assessments for differentiation, they need to have in-depth knowledge of their students—their cognitive and social strengths and weaknesses, their temperamental response tendencies, and other aptitudes—in order to gauge profiles with any accuracy. A pure approach to differentiation is seen as student-centered in the ideal, as individualized instruction matched to students' readiness to learn. But rarely is it practical for teachers to individualize instruction within a large classroom; so other forms of adaptive teaching have evolved, suggesting ways to create subgroups of students within classes with like profiles that should correspond to beneficial modes of instruction (Corno, 2008).

Recent Educational Trends Based on ATI Theory

Other trends in education and the learning sciences reflect the evolution of an ATI theory. Three important trends to emerge in recent years are Response to Intervention (or RtI), proficiency- or competency-based pathways (otherwise referred to as learning progressions), and data-driven instructional decision making (i.e., the need for teachers to use data and evidence to inform instructional decision making).

RtI focuses on identifying students who have displayed learning challenges and are at risk of failing. Its objective is to provide early interventions to those at risk through a feedback cycle of assessment, progress monitoring, and prescribed instructional interventions. The tight coupling of the feedback loop between performance/capacity assessment and instruction is a form of matching aptitude with appropriate instructional strategies. RtI comprises a tiered classification system with three levels. The first tier consists of instruction aimed at all students in a classroom or large group. The second tier focuses on instruction appropriate for small groups of students with similar specific difficulties or learning deficits (otherwise known as aptitude profiles). The third tier is individualization within the regular classroom setting. As with differentiation, for RtI to function effectively, teachers must prescribe and adapt instructional strategies to accommodate the learning of individuals as well as groups of students.

Proficiency-based or competency-based pathways is a somewhat recent approach in which students are viewed as progressing through a continuum or pathway of proficiencies or competencies at their own rate; some authors prefer to use the term *learning progressions*. The objective in all cases is for students to acquire deeper and more lasting knowledge (longer-term retention). For this to happen, however, there must be a level of individualization or customization in which the teacher aligns the instructional intervention to the needs of students and also adjusts that intervention and pacing according to students' evolving progress toward mastery or levels of specified proficiency (Sturgis, Patrick, & Pittenger, 2011).

Data-driven decision making for instruction has been a major emphasis of the U.S. education policy since the mid-2000s. It is premised on the observation that good teachers have always used a variety of data sources from students to inform their instructional planning (observed actions and interests, work samples, verbalizations, problem solving, test performance, etc.). Today's policymakers have articulated the importance of formalizing the collection of such data sources. They also recognize that educators should learn to produce "hard," or relatively objective, evidence to inform their decisions rather than rely on their instincts or informal experiences. A philosophical shift has occurred over the past decade supporting the need to use data to inform education practice, the different kinds of data that may be most appropriate, and the purposes for which those data are to be applied. The philosophical shift is away from data being used for accountability purposes (typically summative performance measures) toward data for continuous improvement. Data for improvement align more closely with informed instructional decision making. As with ATI theory, student data may be cognitive, affective, motivational, or behavioral. The more diagnostic the assessment and the tighter the chronological coupling, the more the instruction can be tailored to the needs of individuals or groups of students.

The essential component for data-driven instructional decisions is to align the right data to the decision-making situation; the data must fit the purpose of the decision. Furthermore, the greater the number and variety of data sources, the more informed

the decision will be. For example, state summative assessments cannot provide the kinds of information a teacher needs to make informed instructional decisions about specific students and their learning needs. These tests do not have the granularity or timeliness to actually inform instruction. Such data may provide a broad picture to a school or district for comparison purposes, but they cannot provide teachers with the deep knowledge of learner strengths and weaknesses needed to prescribe appropriate instructional remediation and inspiration to students across the spectrum of aptitude. Instead, a concatenation of different data from sources and indices, such as diagnostic and formative assessments, designed classroom performance activities and work samples, and semistructured observations, can help teachers capture and appropriately adjust instruction to each learner's profile of aptitude.

Despite the beliefs of some scholars, perhaps misled by what they viewed as inconsistent results reported in the handbook of Cronbach and Snow, ATI theory has evolved and remains foundational for various forms of contemporary studies in teaching, instruction, and the learning sciences. The concept of considering the aptitude profiles of individual students and adjusting instruction to match them can, as Snow liked to say, be traced back to ancient documents from the 5th century BCE; and yet it remains an essential part of current educational practice as well. Its fundamental principles resonate in the practices and policies of modern forms of adaptation such as those we have described. This legacy should not become lost history.

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See also Abilities, Measurement of

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Aquinas and Thomism

Thomism refers to the philosophical positions and style of thinking to be found in the writings of St. Thomas Aquinas (1225–1274) and of those who are influenced by his manner of philosophizing and his substantive positions on philosophical issues. Thomism, or more accurately, neo-Thomism, is a variety of Thomist thought revived as a result of its official recommendation by Leo XIII in 1879 in an encyclical (papal document) titled *Aeterni Patris*. St. Thomas's system of thought and method of analysis are not, however, the exclusive preserve of those who seek to articulate and justify a Catholic philosophy of education. Thomism is also relevant to the work of philosophers who do not work within this tradition but who are prepared to engage in dialogue with it or who simply admire the cool rigor and relentless logic of Aquinas. For example, the spirit of his philosophy of education with its valorization of the life of reason and of careful argument can be found in the work of Harvey Siegel, a contemporary philosopher who is neither Catholic nor theist. The searching, analytic approach of Thomism and its substantive position on a wide range of issues can promote fruitful exchanges about the meaning and practice of education.

A brief bibliographical note is appropriate at this point. The major works of Aquinas include *Summa contra Gentiles*, *Summa Theologica*, and *De Veritate*; relevant sections from these texts can be found in Ralph McInerny's edited collection *Thomas Aquinas: Selected Writings* (1998). The philosophical positions adopted by Aquinas inform the papal encyclicals on education over the past century. In the 20th century, the French philosopher Jacques Maritain (1882–1973) was one of the most notable promoters of Thomism in the field of education, especially in his work *Education at the Crossroads*. As is clear from the short list of further readings at the end of this entry, Thomism has prompted much philosophical work relating to education over the years.

The next section of this entry deals with the general philosophical positions of Aquinas and draws largely on the *Summa Theologica*. This is followed by an overview of the implications of his philosophy for education. The third section deals with the Thomist theory of teaching and learning.

The Contours of the Philosophy of St. Thomas Aquinas

Aquinas affirms a view of human beings as part of a world that is made up of phenomena that possess objectively real natures. For Aquinas, the world has a reality that exists independently of how we perceive and understand it. He does not consider that knowledge consists in an inference from sensation; rather, he affirms the Scholastic adage that "nothing can be understood until it first appears to the senses" (*nihil in intellectu nisi quod pris fuerit in sensu*). He considers sense experience to be the starting point of knowledge and to be mediated via the intellect to constitute knowledge. Reality is thus amenable to the working of the human mind. According to the epistemology of Aquinas, the mind possesses an intuitive capacity to make the world intelligible and to attain truth.

Human beings are envisaged as rational creatures with powers that enable them to study the structure of reality, whose intelligibility is potentially susceptible of being disclosed by the exercise of their intellectual capacities. Rather than innate ideas, the mind contains the source of knowledge as a seed or germ that, at the very first contact with experience, has the power to conceive certain self-evident principles. Among these first principles, which become the bedrock of our thinking, are, for example, the notions of being or of the unity of being and the principle of causality. Virtue derives from the human capacity to grasp the ends to which human beings are naturally inclined, and the genesis of virtue is to be found in the apprehension of these ends.

Aquinas adopts the Aristotelian principle that all change is a passing from being potentially something to being actually that something. He also adopts the Aristotelian synthesis of the *four causes* and uses it to show what is necessarily involved in any development from A to B. The four causes explain the process. There must be (1) a *material cause*, answering the question "out of what"; (2) a *formal cause*, explaining the determining principle ("form") whereby we recognize the result of the change; (3) an *efficient cause*, answering the question of what effected the change; and (4) a *final cause*, the "purpose" or the "end" in terms of which the change came to pass.

According to Aquinas, a human being's highest dignity lies in her or his intellectual nature, where we find the image of God in its purest earthly form. The principal task of humankind is to think rationally and so to grow in knowledge. Accordingly, reason is human being's most important capacity, and the pursuit of truth is her or his primary and most fundamental duty. Aquinas sees love emanating from the pursuit of truth. The achievements of the will derive from the work of the intellect. For Aquinas, knowledge is not only a useful accomplishment, it is also valuable in its own right and worthy of being pursued for its own sake.

Deeply embedded in human nature is an urge to happiness in the form of a desire to achieve the goods that perfect the human being as a rational animal and especially as a social animal. This urge to be happy is a constant stimulus to action, but the ultimate impulse of human striving for happiness is to enjoy the beatific vision, that is, to participate in the life of God, where the ultimate perfection of humankind is to be found. Human striving is a search for this perfection and the cultivation of the excellence in thought and deed that leads to this state. The excellence envisaged by Aquinas represents a form of virtuosity that embraces moral virtue as well as accomplishment in all aspects of human life. Practical reason must provide guidance and judgment so that human beings may progress in all fields of human endeavor. God has given humankind many gifts to help people achieve a relative degree of excellence in these areas and to furnish them with a taste of what perfect happiness is to be like in the world to come.

After this brief overview of Thomist philosophy, the implications of this philosophy for education are explored in the sections that follow.

Aquinas, Thomism, and Education

So what then are the implications of the Thomist theory of knowledge for educational theory and philosophy? With its emphasis on clarity, rigor, and close, logical argument, the approach of St. Thomas is consistent with that of analytic philosophy as indeed is his confidence in the power of human reason. Yet Thomism differs from the latter in that it also offers a comprehensive philosophy of education based on an overarching conception of the nature and the purpose of human life that is underpinned by epistemological realism and an objectivist view of value. The analysis that is a feature of Thomist philosophy yields a metanarrative or grand theory, that is, a comprehensive or overarching account of the nature and purpose of human life and this is not, to be sure, a feature of the work of philosophers who work within the analytic tradition. Indeed, Thomism gives expression to the classic metanarrative of Western culture. Human beings are created by God to ultimately enjoy eternal life in his company. The *telos* or end of all teaching and learning is to enable human beings to attain this ultimate state of beatific perfection.

Here, something further must be said about Thomist teleology. This is the conception of the aim of education that has traditionally informed Catholic, and other religious, versions of education and schooling. The Thomist vision of the ends of education has even been invoked in the national context by the Irish State. This vision furnished the explicit underlying rationale for the primary school curriculum from 1971 to 1999 and was given expression in the document of the Irish Department of Education titled *Curraclam na Bunscoile: Lámhleabhar an Oide, Cuid 1* (*Primary School Curriculum: Teacher's Handbook*, Part 1, 1971):

> Each human being is created in God's image. He has a life to lead and a soul to be saved. Education is, therefore, concerned not only with life but with the purpose of life. And, since all men are equal in the eyes of God, each is entitled to an equal chance of obtaining optimum personal fulfilment. (p. 12)

This statement of the aims of education was challenged as infringing liberal principles and did not appear in the document published in 1999. The new document is based on the acceptance that, in a liberal democracy, it is not appropriate for a single substantive worldview to be taught as true in every school. Nevertheless, in a democratic state, proponents of a Thomist vision of education are not obliged to embrace the relativist position that all worldviews are equally valid. Yet considerations of liberal justice require they accept that differing versions of the good may be counted as reasonable, although a Thomist would deny that they are equally compelling.

More usually, a Thomist *telos* is to be found underpinning the education provided in Catholic schools. The traditional spirit of this *telos* is well described in the fiction/autobiography of, for example, James Joyce, Simone de Beauvoir, and Mary McCarthy. Yet the irony is that today many Catholic schools in many different countries are reluctant to

define themselves in terms of a Thomist *telos*. The uncompromising statement of aims reflected in the Irish document tends to be replaced by expressions of educational aims that amount to little more than a lowest common denominator of benign aspirations.

The Dynamics of Teaching and Learning

The educational vision of St. Thomas is based on the conviction that humankind has access to the truth about life and its purpose, but Thomist pedagogy is not at all dogmatic and didactic in the traditional sense of the teacher passing on authoritative truth to passive learners. His most extensive and well-known account of the teacher–learner relationship is to be found in *De Veritate* (Q. XI, a.1), but Ryan (2009) has disclosed sources of insight into the dynamics of this relationship in his earlier work. Concern to account for the activities of teaching and learning is actually a feature of Aquinas's work from his inaugural lecture on being appointed a *magister* or university teacher. Coincidentally, the task of giving an account of the relationship between teacher, subject matter, and learner was also one that the important analytical philosopher of education R. S. Peters wrestled with, and it has assumed a significant profile in contemporary philosophy of education with consideration being given to the complex conceptual geography of notions of discipleship, apprenticeship, imitation, and identification.

At this point, it is again necessary to make some observations about Aquinas's view on the place of God in teaching and learning. Aquinas believed that God was the animating impulse behind the whole universe, but this does not detract from the persuasiveness and subtlety of his account of the relationship between teacher and pupil in the educational context. Indeed, he explicitly rejects the view, defended by Saint Augustine in his text *De Magistro*, that only God can teach human beings and that, consequently, one person cannot truly be said to teach another. Augustine argues that, although human beings can indeed speak about truth, one person cannot teach another to embrace this truth because people learn not through the words of a teacher but rather through the action of God revealing truth in the soul via created things. For Augustine, teaching is the prerogative of God alone, and one human being can do no more than alert another to what she or he already knows. But, in his text on *De Magistro* in *De Veritate*, Aquinas emphatically rejects this view. According to the Thomist account, although God is ultimately the source of human knowledge and of the capacity to acquire this knowledge, it is perfectly reasonable to speak of one human being teaching another in the sense that one person can serve as the secondary cause of another's knowledge.

To understand how knowledge can pass from one person to another, Aquinas first considers how knowledge is acquired. As noted above, knowledge exists within human beings in the form of the seeds of elementary ideas, and accordingly, we can come to acquire knowledge without the intervention of teachers; this is called invention or discovery. If knowledge did not exist in an active rather than a passive way, then it would be impossible for someone to acquire knowledge by herself or himself. Therefore, an individual can serve both as a cause of her or his own learning as well as that of other people. A teacher, through *disciplina* (teaching), can trigger the movement from the potential that lies in the seeds of knowledge to actual knowledge. So how does this occur? This is a matter that Aquinas discusses both in the *De Magistro* section of *De Veritate* and also in two early texts that can be considered as part of his inaugural address on being appointed *magister*. These texts are known as *Rigans montes de superioribus suis* ("Watering the mountains from above, the earth will be filled with the fruit of your works," Psalm 10:13) and *Hic est liber mandatorum Dei* ("This is the book of the Commandments of God"; McInerny, 1998). So right from the outset, the reader gets a sense of the rich pedagogy of Aquinas as he draws on the resources of metaphor to explain the activities of teaching and learning. In this instance, he makes a comparison between water flowing from on high to assist in the ripening of fruit and the teacher bringing about learning in the student. The significant role exercised by the teacher in the imparting of knowledge is made further explicit in *De Magistro*, where Aquinas again has recourse to metaphor. The teacher points out to the learner the path of reasoning that she or he followed to reach her or his conclusions. The demonstrations used by the teacher could be described as tools or instruments to enable learners to understand something new. He compares the role of the teacher cooperating with the learner in communicating knowledge with the role of the doctor cooperating with nature in promoting the health of a sick person. Yet throughout the activity of teaching and learning, the ideas of the students are the basis on which all knowledge is constructed.

The teacher is a mediator of knowledge, but the primary source of this knowledge lies in the understanding of the learner. The teacher could therefore be described as one who builds on or shapes the learner's original mental construction of the world.

To conclude this section, it is important to note a comment in the first sentence of *Hic est liber mandatorum Dei*. This is a gloss on the words of Saint Augustine that themselves echo those of Cicero, enjoining the teacher to speak in order "to teach, to delight and to change; that is, to teach the ignorant, to delight the bored and to change the lazy" (McInerny, 1998, p. 5). The notion of changing highlights an integral feature of the educational philosophy of Aquinas. Knowledge and action are inextricably linked, and to say that someone knows something means that this knowledge informs the way she or he acts, a point that is echoed in the 20th century in the work of Gilbert Ryle. The implications for moral education are obvious because for a person to count as knowing how to behave means that she or he behaves in accordance with this knowledge. In a more general sense, for Aquinas knowledge is transformative because to count as knowing something the learner must internalize the knowledge, and this knowledge must inform the way she or he perceives the world. He disparages rote citation of authoritative answers because knowledge must come to life in the world of the learners. As Aquinas comments in *Quodlibet*, "If we resolve the problems posed by faith exclusively by means of authority, we will of course possess the truth—but in empty heads" (in Ryan, 2009, p. 92). Ryle's famous distinction between "knowing how" and "knowing that" is relevant here. "Knowing that" in the sense of being able to recite propositions does not count as an educationally significant achievement—learners must also demonstrate the "knowing how" necessary to fit what they have learned into an intelligible conceptual framework.

Conclusion

St. Thomas Aquinas was also very didactically aware, and his approach to teaching a text reflects a pedagogy that is as lucid and coherent as his philosophy. His approach to teaching a lesson is very structured and could indeed be commended to teachers at all levels in education. More generally, readers coming to his work for the first time will find in his approach echoes of analytic philosophy of the mid-20th century, of the close reading of texts to be found in the work of the New Criticism in poetry in the English-speaking world, and of the tradition of *explication de texte* in the French literary tradition.

For Aquinas, education is initiation into the life of reason that includes initiation into the life of virtue. He also was a committed Christian of deep and abiding faith, and his approach to philosophy and education is always informed by this faith that he conceives as entirely compatible with reason. His commitment to reason means his philosophy is not based on ideological assertion but rather on careful argument that is open to the challenge of those who hold opposing viewpoints. His philosophy of education can be said to derive from two principles: (1) commitment to clarity in reasoning and (2) openness to the force of the better argument.

Kevin Williams

See also Aims, Concept of; Aristotle; Continental/Analytic Divide in Philosophy of Education; Knowledge, Analysis of; Learning, Theories of; Maritain, Jacques; Peters, R. S.; Scheffler, Israel; Teaching, Concept and Models of; Theory of Mind; Wittgenstein, Ludwig

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Arendt, Hannah

Hannah Arendt (1906–1975) was one of the most influential political philosophers of the 20th century. Born in Germany to a Jewish family, she studied philosophy with Martin Heidegger at the University of Marburg. She was forced to emigrate when Adolf Hitler's National Socialist Party took power in 1933. After spending the next eight years in France, she immigrated to the United States in 1941, where she became a major part of a vibrant intellectual community. Arendt's major works—*The Origins of Totalitarianism* (1951), *The Human Condition* (1958), *On Revolution* (1963), and *Eichmann in Jerusalem* (1965)—dealt with philosophy, politics, and history.

Arendt wrote comparatively little about education and the philosophy of education. Apart from a couple of essays titled "What is Authority?" and "The Crisis in Education" in her book *Between Past and Future* (1977), she made relatively few references to this topic in her other works. However, a close reading of these two essays in the context of her major works suggests that Arendt's views on education developed out of two central threads in her thinking: (1) a traditional conception of authority and (2) her existential convictions. The result is a distinctively conservative approach to education, which she described in "The Crisis in Education":

> To avoid misunderstanding: it seems to me that conservatism in the sense of conservation, is of the essence of the educational activity, whose task is always to cherish and protect something—the child against the world, the world against the child, the new against the old, the old against the new. Even the comprehensive responsibility for the world that is thereby assumed implies, of course, a conservative attitude. (Arendt, 1977, p. 192)

Arendt's point is that adults need to preserve the world from the hands of the young, who might destroy parts of it if left to their own devices. To preserve this human world against the mortality of its creators means to constantly renew it so that it can provide a permanent home for succeeding generations who will inhabit it. This point is reminiscent of the mainstream conservative argument that holds that society and tradition are to be preserved by imparting to the young the worthy values and great ideas of the past. Yet Arendt also presents a stronger argument: that conservatism in education implies a willingness on the part of adults to protect the young from the world (i.e., from social conventions), which seeks to suppress the new and revolutionary in every child. Unlike mainstream conservative approaches that often ignore the fresh possibilities that newborns bring into the world, she insists that educators must cherish and foster them. For Arendt, perhaps the most important and difficult problem in education is how to preserve the new and revolutionary in the child while simultaneously conserving the world as a permanent home for human beings.

In Arendt's view, education involves a unique triadic relation among educators, the world, and our children, in which it is the educator's task to mediate between the latter two. Such a relation, she believes, is based on adults' authority and their desire to preserve both the world and the young. In education, it is precisely the authority relation and its corresponding conservative attitude that make room for renewal and innovation. Renewal and innovation are contingent on the young coming to know the world; only adults, because they are already familiar with the world, can teach children about it. Education, she argues, is worthwhile when the conservative and the revolutionary go hand in hand, when we preserve the past for the sake of the new:

> Exactly for the sake of what is new and revolutionary in every child, education must be conservative; it must preserve this newness and introduce it as a new thing into an old world, which, however revolutionary its actions may be, is always, from the standpoint of the next generation, superannuated and close to destruction. (Arendt, 1977, pp. 192–193)

This last point should be underscored on the grounds that Arendt is one of the few modern thinkers who insist that in education we must be conservative for the sake of the new. She is not arguing, as mainstream conservatives have, that children should be taught the great works of the past because of their important educational insights and relevance for our lives. Rather, she is claiming that the past and the relation of authority are essential to help children realize their potential for creating something new. Without being taught the classic works of tradition, children would not have the basic knowledge needed to change and renew the world. And without adults assuming responsibility for the common world and guiding the young in it, children would not have the security needed to operate adequately in a rapidly changing world. In Arendt's view, the most important goal of education is to help children become

familiar with the world and feel secure in it so that they may have a chance to be creative and attempt something new.

Yet what distinguishes Arendt's conception of educational authority is not merely the idea of preserving the past for the sake of the new. No less important is her emphasis on human action and the fact of natality on which action is ontologically based. Natality refers to the reality that each child has the potential to initiate something new in the world by virtue of the fact that "with each birth something uniquely new comes into the world" (Arendt, 1958, p. 178). The fact that birth constantly brings newcomers, who are not only beginners but also unique into our world, means that the unexpected can be expected from them. It means that the young can intervene in the ordinary course of events and initiate radical changes in society. According to this view, education should be aimed at preparing the young for a life of action—for a life of involvement in and transformation of the world:

> Education is the point at which we decide whether we love the world enough to assume responsibility for it and by the same token save it from the ruin which, except for renewal, except for the coming of the new and young, would be inevitable. And education, too, is where we decide whether we love our children enough not to expel them from our world and leave them to their own devices, nor to strike from their hands their chances of undertaking something new, something unforeseen by us, but to prepare them in advance for the task of renewing a common world. (Arendt, 1977, p. 196)

Thus, Arendt believes that education should be aimed at preparing the young for taking responsibility for the world. Yet this responsibility does not mean clinging to traditional morals or returning to a "golden past," as mainstream conservatives advocate. Rather, it means preparing our students for action, that is, for intervening in the world and creating a more humane society. Arendt thinks that education is ideally a space that can help students prepare for taking responsibility for the world by providing them with the kind of information and skills (e.g., moral reasoning) that they will need to become informed and engaged citizens in a democratic society.

Mordechai Gordon

See also Dewey, John; Heidegger, Martin

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ARISTOTLE

The educational ideas of the Greek philosopher Aristotle (384–322 BCE) have been widely influential across the ages but since the 1980s especially so with regard to moral and civic education, and flourishing as a goal of education. Aristotelian ideas about practical reason and friendship have also had considerable influence in philosophy of education. This influence has been not only facilitated by a wider revival of scholarly interest in Aristotle's philosophy but also shaped by the related emergence of the virtue ethics movement in moral theory and communitarian movement in political theory. This entry briefly reviews Aristotle's life and works and then discusses the central elements in his philosophy of education.

Life

Aristotle was born in the town of Stagira, in Chalcidice, between the Balkans and the Greek peninsula. His father, Nicomachus, was physician to the Macedonian court, a circumstance influential in Aristotle's own lifelong ties to it. At the age of 17, he began 20 years of study at Plato's Academy in Athens, until the latter's death in 348/347 BCE. Perhaps owing to political difficulties arising from his Macedonian connections, Aristotle then left Athens for Assos and Mytilene, where he is thought to have done much of the detailed fieldwork on which his biological works were based. At the invitation of Philip II of Macedon, he returned to Macedonia in 342 BCE where he was tutor to Philip's son, the

young Alexander the Great. Returning to Athens in 335 BCE, he founded his Peripatetic school or *Peripatos*, named after its site, the *peripatos* (probably a colonnaded walk) of the monumental public gymnasium at the Lyceum—a sanctuary established for the worship of Apollo the wolf slayer (*Lykeios*)—but already by the late 5th century, it became a place of leisure (*scholê*) and higher learning favored by Sophists, Socrates, and young men who came to exercise and listen. There he collaborated with colleagues in systematic research on an astounding array of topics; founded several disciplines, including zoology, logic, and political science; gathered a library of documents and research materials without precedent in the Greek world; invented scientific prose and oversaw its voluminous production; and led other members of the school in teaching students of diverse philosophical and family backgrounds. The death of Alexander in 323 unleashed anti-Macedonian feeling, which forced Aristotle to withdraw to his mother's estate in Chalcis. He died there in 322, leaving his library to Theophrastus and expressing a preference that the latter should succeed him as *scholarch* or head of the Peripatetic school.

Works

Aristotle's surviving writings are numerous and remarkably wide ranging, yet these are only a fraction of what he produced. A list of his writings compiled in the years after his death, when many were in use at the Lyceum and widely in Alexandria, include a history of Athenian dramatic performances, constitutional histories of 158 states (of which only the history of Athens has survived intact), and dialogues praised by Cicero (106–143 BCE) for their eloquence. The collection left by Theophrastus was brought to Rome after the fall of Athens in 86 BCE and was edited there between 70 and 20 BCE by the Peripatetic philosopher, Andronicus of Rhodes, who grouped many of the books (papyrus rolls) into treatises. This has served as the basis for all subsequent editions of Aristotle's works, and most of what Andronicus considered important has survived. It is widely accepted that the books comprising these surviving works are lectures or compilations of notes that Aristotle had not prepared for publication. The works form a deeply interconnected whole, but they are conventionally organized into distinct philosophical categories: *logic* or the "*Organon*" (works constituting the "instrument" or tools of philosophical inquiry); *metaphysics* (concerning being, substance, matter and form, etc.); *natural philosophy* or "physics" (concerning everything in the natural world, both inanimate and animate, hence everything from physics in the modern sense, to meteorology, the movement and parts of animals, and dreams); *political science* (comprising ethics and "legislative science"); *rhetoric*; and *poetics*.

It is principally in his *Nicomachean Ethics* and *Politics*, works which present themselves as an ordered pair comprising political science (*hê politikê epistêmê*), that Aristotle addresses education, though even in these works, the direct remarks about education are brief except in the final book (VIII) of the *Politics*. His purpose there is to argue that schooling should be publicly provided and the same for all citizens and to provide a general account of the aim and content of such schooling. There is no sustained discussion of higher education in the extant works, but important features of Aristotle's conception of it can be inferred from scattered passages in his works and from independent testimony concerning the practices of his school.

The Idea of a "Universal" Education

Aristotle says in *Politics VIII* that the primary concern of education is to cultivate a capacity to form good or correct judgments and (what is closely related so far as *moral* judgments are concerned) a disposition to take pleasure in admirable human dispositions and actions. His work, *On the Parts of Animals*, opens similarly with the claim that to be educated is to be able to form a sound judgment of an investigation or exposition, a person of "universal" education being one who is able to do this in all or nearly all domains of knowledge. The ability to make sound judgments for oneself is a defining aim that unifies education at all levels, but *Politics VIII* is concerned with a stage of education in which the development of good judgment is strongly linked to the formation of moral dispositions, whereas *Parts of Animals I* is concerned with the principles by which the soundness of inquiries and expositions in a domain of higher learning (zoology) might be judged—principles Aristotle had devised and was in that very lecture preparing to impart. He evidently believed that to be educated in a field of study is to master its principles of inquiry and to be able to make sound judgments for oneself of matters within its sphere of competence. He furthered such mastery and ability in zoology and other sciences not only by focusing his students' attention on the principles

but also by encouraging involvement in investigations. Unlike Isocrates's school of rhetoric, in which a solitary master dispensed instruction to students for a fee, the *Peripatos* was an informal community of "friends" (*philoi*) engaged—in varying proportions—in research, instruction, and learning, without fees or contractual obligations. The collaborative nature of research in this setting is consistent with Aristotle's remark at the opening of *Metaphysics II*, that everyone has the capacity to contribute something to finding the truth, while no one can succeed adequately except as part of a larger, collective effort.

The students who heard the lectures constituting Aristotle's *Nicomachean Ethics* were told similarly at the outset that their experience of human conduct and familiarity with ethical facts would provide the starting points for a process of inquiry culminating in a systematic, reasoned body of ethical knowledge (*epistêmê*)—the ethical *knowledge* required for *phronêsis* (practical wisdom or excellence in judging what to do). Aristotle announces his practical philosophy as a science and a field of higher learning, and here, as in other educational domains, the overarching aim is the development of a form of good judgment.

Aristotle's understanding of the basis for sound judgment in a domain of knowledge is closely related to his conception of a science (*epistêmê*) as consisting of a structure of "first principles" and theorems derived from those principles, the first principles being necessary and defining truths of the natures of things in the domain. Understanding (*nous*) of first principles must begin in perception and memory of particular objects (*particulars*) and proceed through a unification of memories to general or universal suppositions about similar objects and, finally, analysis of *universals* or clear understandings of a common nature or essence. Grasping a science's first principles and what follows from them enables one to understand the causes of things in the domain.

Aristotle remarks at the opening of *Metaphysics I* that such understanding or knowledge is required to teach any art (*technê*, or craft), and the teaching of any science or art will naturally aim to cultivate such understanding or knowledge. An obvious consequence of his view that understanding and knowledge are rooted in perception is that teaching must build on or provide experience of relevant objects. What he emphasizes, however, is that experience or knowledge of individual objects is only a first step toward the grasp of universals and grasp of inferential and explanatory relations essential to scientific knowledge and the mastery of any art. A "manual" worker may learn by experience or guidance from a master yet lack the master's scientific or theoretical understanding, and for that reason be unable to rely on his own judgment and achieve consistent success in the variety of circumstances that arise.

Aristotle did much to advance this ideal of "universal" sound judgment or wisdom both personally and through the activities of his Peripatetic school, but the relationships between this ideal and the educational aims referred to in *Politics VIII* are not entirely clear. These aims pertain to the roles of the virtues, including theoretical wisdom (*sophia*) and practical wisdom (*phronêsis*), in flourishing lives and just political communities. It is not clear that either of these forms of intellectual virtue requires mastery of *all* domains of knowledge.

Liberal Versus Illiberal Education

Aristotle says in *Politics VIII* that education is not a preparation for paid employment, but for leisure devoted to intellectual activity. Greek education in *gymnastikê* (athletics) and *musikê* (music, poetry, and narratives—the "Arts of the Muses") was from the beginning a preparation for leisure, and it had remained so in large measure with the introduction of group lessons, but Aristotle (largely following Plato) reinterpreted this education as preparatory to the particular use of leisure he thought most admirable and satisfying. He allows that children should be taught useful things that are truly necessary (referring to reading and writing, gymnastic exercises, and drawing), but not so much of these useful things as to interfere with the development and exercise of virtues (*arête*, excellence, and goodness)—the virtues of thought no less than moral virtues. Dividing occupations and arts into the *liberal* (*eleutherios*, free) and the *illiberal* (*aneleutherios*, unfree), he advocates teaching the former only, and doing so only to a *degree* consistent with the exercise of virtue and with the *object* of cultivating the virtues foundational to living well and happily. Education in musical performance is defended at some length as liberal insofar as (a) the music contributes to moral development by imitating good character and producing delight in its apprehension, (b) the resulting appreciation of what is good provides the basis for good *judgment of* musical performances later in life, and (c) the selection of instruments and mode of

instruction aim at the student's own "improvement" and not to please an audience with feats of virtuosity, as a paid performer would be expected to do.

Like other 4th-century writers, Aristotle treats what is *illiberal* or not free as synonymous with what is "banausic." The Greek term *banausos* designates an artisan whose work is "manual" or involves use of the hands, but it is pejorative and expressive of the prejudices of a leisured elite in implying subservient catering to others through commercial exchange, hence a kind of dependence or lack of freedom. Beyond such dependence, all paid employments are "banausic" and illiberal according to Aristotle, because they "absorb" and "degrade" the mind (undermining the freedom to guide oneself by one's own good judgment). In conceiving of a public system of day schools in which all citizen children receive the same education together, yet receive no education preparatory to paid employment, Aristotle has in mind a society in which citizens are primarily land owners who manage their farming households but are not personally engaged in the manual labor of farming.

We should be able to use leisure well, Aristotle says, and there are branches of learning that should be valued for themselves and studied with a view to spending leisure in intellectual activity. He refers to music as providing intellectual enjoyment in leisure and seems to regard it as providing occasion for the contemplation of human goodness and beauty, but the branches of learning he has in mind are more generally ones in which theoretical wisdom or *sophia*, the highest human virtue, is exercised in *theoria* or contemplation of the best or "most estimable" objects of knowledge. "Best" may mean divine, and human excellence may qualify as divine, but the musical inducement of contemplation of such excellence would not constitute an exercise of *sophia* without a grasp of the universals of human goodness grounded in ethical science.

Aristotle argues in *Nicomachean Ethics I* and *X* and *Politics VII* that the happiest life for a human being is one that makes theoretical contemplation its highest end. A person might have a happy life by devoting himself to political affairs, engaging in activity that suitably exhibits the virtue of *phronêsis*, but the life devoted to intellectual activity exhibiting the virtue of *sophia* is happiest and complete in itself. Happiness or *eudaimonia* is a human being's natural highest end, and the activity of politics—a *productive art* (*technê*) aiming at something beyond itself—cannot qualify as a highest or ultimate end, Aristotle argues. The view that emerges is that a liberal education should be valued as a direct contribution to human flourishing; it prepares students to engage in intellectual activity that is inherently admirable and rewarding, activity that expresses or constitutes human flourishing or *eudaimonia*.

Aristotle regards moral virtue as an *internal* psychic requirement of a happy life, and his reason for doing so is important to understanding the progression of education from moral habituation to the exercise of wisdom essential to a happy life. According to the *unity of virtue* doctrine elaborated in *Nicomachean Ethics VI*, sound judgment both presupposes and completes the moral virtues; no one can develop sound judgment without first possessing natural or habituated forms of all the moral virtues, and no moral virtue becomes a *true* virtue unless habituation through guided practice is followed by teaching that leads to sound judgment. A happy life is occupied with the most suitable exercise of *sophia* or *phronêsis* and, therefore, requires the possession of sound judgment. Sound judgment is only possible if one perceives the world accurately in its various ethical aspects, and it is what we do and practice that shapes the cluster of dispositions that constitutes a habituated moral virtue—what we desire, take pleasure in, and *perceive* as good.

Education, Justice, and the Human Good

Aristotle begins from the idea that all human beings desire to live well or happily, and he conceives of a just society as one that is designed to enable everyone to live well. Believing he has shown that the life that makes theoretical contemplation its highest end is the uniquely best life for human beings, he holds that a *polis* (politically autonomous city) is properly a partnership in living this *best* kind of life. The *polis* described in *Politics VII* and assumed in *Politics VIII* is the one Aristotle says is the best that is possible in highly favorable circumstances, a city in which every (free, male) citizen possesses true virtue and cooperates with others in leading a flourishing life. (Aristotle says at one point that women, being half the citizens, should be educated, but he offers no specifics, and there are only references to sons and boys being educated in *Politics VIII*.) The *Politics* offers not only ideals and best possible arrangements but also a conception of the most just arrangements feasible for most societies and systematic guidance for improving all kinds of regimes. A clear message in this is that any society that aspires to be just will

endeavor to provide its citizens with what they need in order to live well and cannot provide themselves, notably, the education foundational to living well.

Politics VIII opens by observing that education should be of paramount concern, and the same education should be provided to "all" through a public system, not only because the city has one common end (living the best life), and the fulfillment of this end through activity expressing virtue requires prior "education and habituation," but also because it matters to the quality of the constitution (how a society functions as a political community). Because the best constitution achievable by most societies is institutionally a stable, consensual rule of law providing representation and powers to all classes, and one that is dominated by a large middle class in a way that prevents polarization and encourages cooperation, education serving the quality of the constitution would promote equality, civic friendship, and the moral and intellectual virtues essential to productive participation in collective self-governance. Education serving just civic purposes in such ways remains *liberal*, because the virtues of citizenship that are inculcated are no different in kind from those any human being needs to live well, and cooperating in collective self-governance is not servile.

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See also Knowledge, Structure of: From Aristotle to Bruner and Hirst; Liberal Education: Overview; MacIntyre, Alasdair; Paideia; Phronesis (Practical Reason); Plato

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Arnold, Matthew

Matthew Arnold (1822–1888) was among the most important public intellectuals in 19th-century England. A renowned poet, he held the post of Oxford Professor of Poetry and was a preeminent cultural critic of the time, one whose works continue to be read today. It is less well known that he was also an educational reformer with wide practical experience as an inspector of schools and author of official reports on foreign education. Arnold's theory of education centers on the idea that "culture" must be regarded as the normative social value and that acquisition of culture must be extended across class divisions by state-supported schools. In the long debate between proponents of science-based and literature-centered education, Arnold was a leading voice for the value of the humanities. A theorist of high culture and liberal arts education, Arnold at the same time advocated egalitarian, modern schooling for the nation. His ideas remain contentious in current debates over cultural theory and education. Because both his philosophical and practical interests in education begin with the idea of culture, in a nonanthropological sense, it is important to grasp his understanding of the term.

Culture

Arnold's most widely read volume is titled *Culture and Anarchy* (1869/1994). In it, he argues that without "culture" 19th-century social transformations in class relations, economic distribution, and social status will inevitably lead England into "anarchy." Although he rarely defines a term without using concepts that themselves require definition, Arnold means by *culture* the knowledge, understanding, sensitivity, and good taste that comes from

the elite, classical education provided by the great public (i.e., private) schools like Eton and Harrow and thereafter by the Oxbridge universities. But culture is not exclusively the province of the privileged. In his familiar words, culture is the quality of "sweetness and light." It is the critical ability to "see things as they really are," and it derives from sustained exposure to the "best that has been thought and said." Culture is the quality of an educated and cultivated mind that connects present ideas to those that have gone before, an inner, dynamic growing of mind and spirit toward greater "perfection." Arnold saw the opposite of culture in his age's faith in what Thomas Carlyle, his near contemporary, called "machinery": the utilitarian devotion to material goods and aspirations. Against this tendency of his day, Arnold called for the expansion of culture, or sweetness and light, into the worlds of commerce, politics, economics, literature, art, and education.

Class

Like Thomas Carlyle and John Stuart Mill, Arnold addressed the central issue of his time: the form English society would take in a period of dramatic change. The ascendancy of the middle classes over the rule of the aristocracy and the agitation of the lower classes for industrial regulation and democratic participation left traditional social and political structures unsettled. Arnold's analysis broke the social classes into three groups, each of which occupied a cultural and educational niche. At the top of the social hierarchy was the aristocracy, whom he called the "barbarians." Staunchly individualistic, with an educated "exterior culture" of refined behavior and tastes, at their best, they represented the conduit for genuine culture; at their worst, they were indolent and self-indulgent. The other end of the social spectrum was occupied by the "populace," or laboring classes. Poorly educated and without culture, as Arnold defines it, they were a social and political challenge for the democratizing country. But Arnold's attention was primarily focused on the education of the middle classes, whom he called the "Philistines." Including professionals, financial people, manufacturers, shop owners, clerks, and civil servants, who were living "dismal and illiberal" lives, this class was perversely resistant to light. To him, the middle classes were so immersed in the material world of success, acquisition, and advancement ("machinery") that they could not apprehend the value of culture. They therefore had little capacity for the kind of leadership that could benefit the nation, and in fact, they might be a danger to it. This rising ruling class had to be enabled to make judgments based on the "best that has been thought and said."

Education

Arnold traveled the country as inspector of elementary schools and knew firsthand the condition of education in the nation; he was especially interested in creating a system of state schools for the middle classes. If the workers were to rise into a ruling middle class, there had to be a system of state-established secondary schools to ensure a "civilized middle class to rise into." Education at the great public schools was generally reserved for the gentry and aristocracy, and only a few of the top middle-class families were admitted. But the rest of that class, he said, were the "worst schooled" in Europe. Even where he found education, it consisted mostly of information devoted to the purposes of commercial and material utility. He proposed to remedy those deficits, especially the lack of humanizing ideas, culture, and moral ideals, by turning to France's example: a national system of state schools that kept costs moderate while providing a good education to the middle classes. These schools, as Arnold envisioned them in England, would provide students access to what is "really human." They would link the middle classes to the best culture of their nation, connect them to the great institutions of learning, and "fuse" them with the classes above, creating a common culture. The educational rapprochement between the classes would provide students contact with higher standards, preserving the middle class from a vulgar tendency to overrate their "inferior" culture. Finally, impartial state schools would reduce sectarianism in education. State secondary schools, in other words, could remove those liabilities that, to Arnold, made middle-class ascendency a danger.

Curriculum: Science Versus Literature

For several decades after the middle of the century, a vigorous debate ensued over the question of whether a science curriculum or the study of literature should be central to school reform. The foremost apostle of culture, Arnold, was attacked for denigrating instruction in the sciences and for advocating an outdated classical, belles lettres curriculum. Among his critics, Charles Darwin's defender, Thomas Huxley, acknowledged that Arnold was not entirely

opposed to science education but maintained that he accorded too much privilege to literary studies. Arnold responded that a basic knowledge of science was necessary but insufficient. It is human nature, he argued, to want to connect knowledge with our own conduct and appreciation of beauty, with our moral understanding and aesthetic sensibilities. Science cannot provide this connection, while literature, or the humane letters, from all ages of human history can engage the heart, refreshing, fortifying, and elevating us. It is only poetry that can "interpret life for us."

Making accessible civilization's best interpretations of life is to Arnold the task of the discerning "critic." The critic, setting aside all practical and transient considerations, assesses cultural value on the basis of great works that serve as "touchstones," or standards, for evaluating other works. Education acculturates the young to those standards, aligning judgment with established values. Arnold's educational theory is a part of his larger social criticism: Normative culture, spread by education and maintained by evaluative criticism, preserves the identity and cohesion of the nation and stabilizes its class structures.

Critics and Legacy

Arnold's ideas encountered spirited response. One of his most skeptical contemporary critics, Frederic Harrison, charged that the problem with Arnoldian culture was that it stood aloof from the misery of the world, and the view of Arnold as removed from the raw conditions of English life was common. Other critics commented on his refusal to define and specify terms, on his lack of attention to practical politics, and on his turning to the Continent for ideas and models. Skeptics notwithstanding, Arnold takes his place in a lineage of criticism beginning with Samuel Coleridge, William Wordsworth, and Thomas Carlyle and continuing with T. S. Eliot's "The Modern Element in Literature," F. R. Leavis's *The Great Tradition*, Mortimer Adler's "Great Books" curriculum, Lionel Trilling's liberalist criticism, E. D. Hirsch's search for a common culture, and the core knowledge movement in schools. In recent cultural politics, these generally represent ideologically conservative positions. Cultural criticisms from further left take exception to Arnold on the grounds that his idea of culture represents the hegemonic elitism of middle-class liberals. The Marxist critic Terry Eagleton charges Arnold with the erroneous historicism of regarding a class ideology as a legitimate worldview. Postcolonial critic Edward Said argues that Arnoldian values constitute a link in a chain binding one group together while banishing the outsider. However it is viewed, Arnold's "culture" remains a point of contention in critical debates over educational theory and cultural politics.

Nicholas Preus

See also Adler, Mortimer, and the Paideia Program; Cultural Literacy and Core Knowledge/Skills; Mill, John Stuart; Newman, John Henry (Cardinal); Spencer, Herbert

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ASSIMILATION

Assimilation, in common parlance, refers to a unidirectional and linear process that occurs when one group assumes the dress, speech patterns, tastes, attitudes, and, perhaps, most important, the economic status of the dominant group. However, in recent years, this perspective has been challenged. Newer theories of assimilation highlight the impact of structural- and individual-level factors and different outcomes for assimilation among immigrant and host groups.

Classic Assimilation: Robert Park and the Melting Pot

The earliest version of the assimilation model is that of classic assimilation. The key assumption of this perspective is that there is a gradual but natural process by which diverse ethnic groups come to share

a common culture. Assimilation, however, is seen as a subtractive process in which immigrants lose ethnic/national characteristics to be absorbed into the dominant mainstream culture. From this viewpoint, it is the dominant group that sets the terms of what it means to be assimilated. The process is deemed irreversible but also considered to be extremely beneficial to the newly assimilated immigrants.

The sociologist Robert Park was one of the first researchers of immigrant communities in the United States in the 1920s (and a Jewish immigrant himself). Park is responsible for two key ideas within the classic assimilation camp: (1) the melting pot metaphor and (2) the concept of marginal men.

Park (1928) believed that every society was to some degree a successful melting pot where diverse populations were merged, acculturated, and eventually assimilated, albeit at different ranges and in different ways. He proposed a four-stage "race relations cycle" that began with contact and moved into competition (in terms of both economics and new social organization). The third stage suggested a period of accommodation, but ultimately, men and women would assimilate into the dominant group—the final stage of the cycle. This is from where the "melting pot" metaphor arises.

Despite this straight-line assimilation trajectory, Park maintained that immigrants were often "marginal" men and women; that is, they found themselves between two cultures. For Park, marginality implied conflict not only between cultures but also between social innovation and cultural sophistication. Compared with the "indigenous" person, the marginal person according to Park was "the individual with the keener intelligence, the wider horizon, and the more detached and rational viewpoint" (Park, in Stonequist, 1937/1965, pp. xvii–xviii). However, it is the more negative aspect of marginality that has dominated the immigration debate, in great part due to the work of Park's student, Everett Stonequist.

Stonequist (1937) further elaborated on Park's "marginal man" with the description of the "marginal personality," which he argued was evident in individuals who were initiated into two or more historic traditions, languages, political loyalties, moral codes, or religions. This "marginality" between two static cultures was viewed as a problem, a source of anxiety, and a weakness that needed to be overcome. This seemingly commonsense notion that saw marginality as a state of uncertainty and conflict has been used as a source of support for subtractive assimilation policies.

The New Assimilation: Richard Alba and Victor Nee

The influx of non-European immigrants led to the questioning of the classic assimilation model. The passage of the 1965 Immigration and Nationality Act of 1965 (the Hart-Celler Act), which prohibited the exclusion of immigration and naturalization on the basis of race, sex, or nationality, opened the doors to many non-European (read non-White) immigrants to the United States. Despite this demographic shift in immigration, Richard Alba and Victor Nee argue that assimilation has been, and will continue to be, the "master trend" for newcomers and their descendants. They acknowledge that a degree of racism and ethnocentrism will always be part of the American fabric, and that there are immigrant pathways other than to assimilation, yet they believe that the classic assimilation model still remains valid. The evidence for this claim is that newcomers—irrespective of their race or ethnicity—change their language and culture as they gain contact with mainstream society; at the same time, the mainstream society increasingly accepts more diversity. Thus, they acknowledge that the mainstream itself is changed by immigration, eliminating the one-sided and normative assumption that only the newcomers change. Yet Alba and Nee do not assume assimilation's inevitability or even its desirability as a strategy in the eyes of newcomers. Rather, assimilation may be either a conscious strategy or an "unintended consequence" resulting from everyday decisions. They argue that immigrants should be allowed to assimilate at their own pace and in pursuit of their own interests. In brief, assimilation continues to be the dominant trend in American society, although its outcome may be uneven.

Critiques and Alternatives to Classic Assimilation

Classic assimilation theory has worked relatively well in explaining the assimilation trajectories of European immigrants to the United States. However, it remains embedded in binary oppositions (e.g., us/them, citizen/noncitizen, resident/"alien," legal/illegal, ethnic/nonethnic). This has the effect of excluding or "othering" certain groups. Referring particularly to the "new-assimilation" model, critics argue that for non-White immigrants, high levels of acculturation have not created the deep sense of belonging that has emerged for White ethnic immigrants. Straight-line assimilation also ignores

the other outcomes for immigrants, such as that of isolation, which occurs when a group willingly or unwillingly segregates or disconnects itself from the dominant culture. Consequently, its application to more recent non-European immigrant groups has met with challenges and given rise to alternative theories of immigration.

Margaret A. Gibson's Additive Acculturation

Classic assimilation ignores the *possibility* that immigrants may assume composite or dual identities such as Pakistani American, German American, and so on. This phenomenon is what Gibson (2005) refers to as "additive acculturation" or "accommodation without assimilation" (p. 582). It allows groups to preserve their identity in matters of religion, culture, language, and heritage while, simultaneously, encouraging full participation in the country's political arena.

Segmented Assimilation and the Rainbow Underclass: Alejandro Portes and Ming Zhou

The segmented assimilation perspective, advanced by Alejandro Portes and Ming Zhou (1993), argues that while assimilation continues to serve as a norm for immigrant adaptation, its outcomes have become segmented. That is, immigrants are either confined to "permanent underclass memberships" or experience rapid economic advancement even as they intentionally preserve their immigrant community's values and solidarity. The main contribution of Portes and Zhou is their focus on what factors influence the outcomes for immigrants. These include individual-level factors, such as parent–child relationships, and also contextual factors, such as racial discrimination, urban subcultures, and labor market prospects.

The Pluralist Perspective

By recognizing the impact that various groups have made on American society, the pluralist perspective breaks away from the "us/them" binary and instead provides a fresh way to look at what it means to be American. It thus challenges the passive, unconscious individualism of the assimilation model by postulating a more active role on the part of immigrant groups in defining their identities and solidarities. Moreover, it acknowledges that this process of negotiation is not just between the majority and minority groups but also among minority groups and even within groups themselves. The pluralist perspective is not without its shortcomings; major criticisms are that it overlooks how structures impede the integration process and that it fails to give credence to issues pertaining to the second generation.

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See also Communitarianism; Immigrants, Education of; Multicultural Citizenship

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ASSOCIATIONISM

How we (humans and animals) acquire knowledge through learning has been thought to involve the process of associating—a psychological activity whereby one thing is connected with another. Accounts of how this occurs have been provided through the doctrine of associationism, one of the oldest and most influential theories of how the mind works. Associationism attempts to explain what exactly connects with what and the conditions necessary for the connecting to occur.

An embryonic account of associationism first appeared in Aristotle's *Memory and Reminiscence*. He proposed that remembering begins with an

intuition that is either similar to, contrary to, or occurring close in time to (contiguous with) the idea we seek to remember. This conception of memory dominated until the 17th century when a more developed theory of associationism began to emerge via the British empiricists (Thomas Hobbes, John Locke, and later, George Berkeley, David Hume, and others). It attempted to account for all mental phenomena and became the basis of British empiricist epistemology. The theory had four general features:

1. *Elementarism:* Complex psychological configurations are constructed or built up from simple elements such as ideas, perceptions, or impressions.
2. *Sensationalism:* The simple elements have their basis in sensory experience.
3. *Connectionism:* The simple elements are connected or associated together through experience to form complex configurations.
4. *Laws of association:* Certain conditions must be experienced for the associating to occur.

Differences between the British empiricists were minor. With regard to the laws of association, most accepted the conditions *resemblance* and *contiguity*—that is, when two ideas are similar or are frequently experienced together and one idea is subsequently activated, so is the other. Classical associationism culminated in the mid-19th century with John Stuart Mills's thesis that, in some cases, the associative whole is qualitatively different from the sum of its parts.

Toward the end of the 19th century, an important shift in associative theory occurred in America. Edward L. Thorndike's research into animal behavior led him to conclude that the association is not between ideas (animals do not possess any ideas) but between an antecedent stimulus (a sense impression) and what the animal does in response. Associations, or connections, were strengthened by use and weakened by disuse (the law of exercise), and the strength of the connection between stimulus and response was also enhanced if the desired response was rewarded (the law of effect). In *The Principles of Teaching*, Thorndike wrote that applying the law of association meant that teachers should put together what they wish to go together, keep apart what they wish to keep separate, and create a satisfying outcome by rewarding good impulses.

Thorndike's research was contemporaneous with Ivan Pavlov's demonstration that through repeated exposure to the sound of a bell before the arrival of food, dogs would eventually salivate in response to the bell; in other words, an association reliably occurred between the animal's experience of a conditioned stimulus (the sound of the bell) and its conditioned response (salivation before the presentation of food). Here, repetition and contiguity were the two conditions judged necessary for associations to form.

Thorndike's and Pavlov's research underpinned the substantial attention given to behaviorism (the theory that both human and animal behavior can be explained by observable processes such as conditioning, without appeal to inner or mental phenomena such as thoughts and feelings) during the first half of the 20th century. Hazy divisions emerged between those who thought that response–reinforcement associations were necessary for learning, those who explained learning solely through associative contiguity between the stimulus and response, and those who presumed that both were fundamental. In the hands of behaviorists, associationism was no longer a structural theory of the mind but a theory of learning and behavioral change. It was not ideas that were "glued together" but their observable analogues—stimuli, responses, and reinforcements.

Notwithstanding the prominence of behaviorism, experimental research into the formation of mental associations progressed, in Europe especially. This saw the beginnings of a sustained critique of associationism, albeit from very different quarters. Gestalt psychologists argued that the study of how associations are formed to generate action misses the point. Our perceiving, thinking, and learning is of complex wholes, not elementary components, and how we organize these wholes determines what we perceive.

Some philosophers held not only that elementarism is false but also that (1) the terms *mind*, *perception*, *impression*, *sensation*, *idea*, *memory*, *mental representation*, and so on cannot refer to mental entities because the psychological is relational—it is about processes or events occurring over time, not relatively static representational items internal to the mind or the brain, and (2) even if these mental items were not reified fictions, they could not be the immediate objects of awareness because this leads to a solipsism that has the subject never apprehending anything other than its own internal representations. In short, complexity and relatedness are to be discovered by directly apprehending reality—they

cannot be constructed by a mind (or a brain) that associates data of a less-than-complex kind.

Others bypassed these fundamental criticisms and targeted associative accounts of *how* we come to learn and remember. When the cognitive "revolution" manifested in the mid-1950s, it did so, in part, because associative learning theories were judged to be either limited in scope or plainly false. Noam Chomsky, for example, argued that stimulus–response associations alone could not explain language learning. John R. Anderson and Gordon Bower maintained that such associations could not account for the complexity of human memory. And, neglecting the critique of mental representationism above, they developed a "neo-associationist" theory that advanced an internal mental architecture involving representational networks of "trees" that consisted of linked (associated) "memory nodes."

More recently, artificial neural networks of linked nodes (which purportedly model the brain) have been developed to "learn" cognitive tasks such as face recognition and the detection of simple grammatical structures. They are yet to master the systematicity of "higher" cognitive abilities, and this limitation has been the subject of Jerry Fodor's polemic against associationism—the theory cannot account for our ability to reason or our ability to entertain thoughts with semantically related content, for example, anyone understanding the sentence "Tom likes Jenni" will also understand the sentence "Jenni likes Tom." Associative learning theory has also been denounced for assuming that the temporal pairing of two stimuli, for example, a noise and a shock, constitutes a single trial and that this temporal pairing is critical for association formation. These assumptions are said to lack ecological validity because the flux of life is multidimensional, not a series of discrete trials.

These criticisms aside, contemporary neuroscience maintains that learning involves the strengthening of connections between neurons (changing neuronal connectivity) across the many "cortical association areas." Repetition, therefore, supports learning, while the absence of repetition and exposure results in its decay. And although the role of associationism in explaining cognition has been weakened, in practice Thorndike's directions to teachers are difficult to escape. Contiguity, repetition, and reinforcement remain key principles in designing a learning environment.

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See also Behaviorism; Cognitive Revolution and Information Processing Perspectives; Distributed Cognition; Learning, Theories of; Neurosciences and Learning

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At-Risk Children

Risks are factors that increase the likelihood of negative child development, behaviors, experiences, and outcomes. Risks also reduce the probability of positive child development. In general, the more risks experienced by children, the poorer is their development. Risks can occur at the level of the individual, the family, or the community, but often, they occur at all three levels. Moreover, children and youth who experience risk in one setting are more likely to experience risk in other settings as well. Risks can be distinguished from protective factors, which help insulate children from negative developmental influences. Risks are also distinct from promotive factors, which foster positive development. While practitioners and advocates, as well as researchers, increasingly emphasize positive outcomes and factors that promote positive outcomes, it is clear that minimizing risks can improve the prospects for children and families. Intervention programs that reduce relevant risks can have significant effects on the development and well-being of children and youth. This entry discusses the types of risks that affect child development; how risks are defined at the level of the child, the family, and the community; and how risks affecting child development are assessed. Risks are relevant to the philosophy of education both because the well-being of children is intrinsically valuable and because the risks experienced by children affect their ability to be productive as adults.

Types of Risks and Outcomes

Developmental outcomes for children and youth fall into the domains of physical health, mental health, cognitive development and educational achievement, and social development and behavior. Some types of risks are more relevant for one domain than another. For example, inadequate nutrition can have effects particularly on physical health and cognitive development, while low literacy among caregivers may particularly affect children's educational achievement. However, development in one domain frequently affects development in other domains. Accordingly, it can be anticipated that risks may have broad and even pervasive implications for child and youth development.

Risks can affect children directly or indirectly. Thus, for example, a child or youth may be directly victimized by crime or violence. Alternatively, he or she may be affected indirectly because children are not allowed outside in neighborhoods where crime and violence are pervasive, which can reduce physical fitness and increase obesity. And of course, risks vary in their intensity. Experiencing abuse or neglect is likely to undermine children's development much more than their living in crowded housing.

Risks also vary in the extent to which they are malleable. The education or marital status of a parent may not be easily affected by programs or policies. On the other hand, parents' practices related to child safety or family diet may be subject to change.

Risk Levels: Child, Family, and Community

As noted previously, risks can be identified at the level of the child, the family, or the larger community. Child-level risks can include health problems, difficulties with learning, mental illness, possession of a difficult temperament, or a physical limitation. While one can object to the notion that children can pose a risk to themselves, it is the case that some child characteristics can undermine their prospects for positive development, through no fault of the child. For example, a child who experienced a poor intrauterine environment and premature birth has an elevated risk for negative outcomes from day one. Identifying such risks can and should stimulate early intervention.

Community-Level Risks

Living in a violent or war-torn community poses obvious risks to children's survival and development, but the range of potential risks in a community is broader and more subtle. Risks may be environmental, such as high levels of air pollution and/or mistrust in the neighborhood, a lack of services such as transportation and playgrounds, and/or presence of lead in housing materials or water systems. Alternatively, risks may reflect a lack of cohesion and support among members of a community.

Family-Level Risks

Families are central to the development of children. Accordingly, risks at this level can have devastating effects. Family-level risks come in varied forms. One type is economic—families may lack the income to provide adequate food, housing, and clothing, as well as the books and experiences that children need to develop optimally.

Another type of family risk can come in the form of parenting practices. Parents may engage in harmful behaviors, such as hitting and screaming or smoking in the home around their child. Alternatively, parents may not provide sufficient positive parenting, such as speaking with or reading to their child. In addition, the absence of parental engagement can pose a risk. For example, parents may fail to guide a child's eating habits or moral development, perhaps because of depression, because they are focused on work or other responsibilities, or because they are simply busy with adult activities.

Parents may also fail to provide good role models. Parents can and do often model positive behavior, such as volunteering, exercising, or being a careful driver. However, parents can also model very negative behaviors. For example, parents may fight, cheat, use drugs, or follow unhealthy diets. Even if their behavior is not directed at the child, children can often still observe the behavior or its consequences (e.g., a hangover); such negative role models can undermine their positive development.

Unfortunately, risks tend to co-occur: Children and youth exposed to one type of risk are often exposed to other types of risk as well. Thus, a parent with a drug problem is more likely also to have low income and to engage in poor parenting. The phrase *toxic stress* is sometimes used to describe extreme, frequent, or extended stress faced by children without the buffer of protective factors, such as a supportive adult. Such stress can affect the neuroendocrine-immune network and have long-term emotional and even physiological consequences.

Assessing Risk to Children's Development

Nevertheless, it is important to note that most children experience low levels of risk. A number of approaches to assessing risk have been developed, and all tend to demonstrate a similar pattern.

The adverse childhood experiences (ACEs) model is one approach to assessing negative events or circumstances that people may experience. The 2011–2012 National Survey of Children's Health includes a set of measures that assess how many such experiences children have had since birth. Items include parental divorce/separation, a parent's death, inadequate family income, domestic violence, being a victim of or witnessing violence, living with someone with a mental illness, having a parent in jail or prison, and living with someone who had a problem with alcohol or drugs. Analyses of these data indicate that adolescents 12 to 17 years old who have experienced a greater number of adverse experiences are substantially less likely to be thriving. For example, the proportion of adolescents with high levels of behavior problems rises steeply as the number of ACEs increases from 30% for adolescents with no ACEs to 41% for those with one ACE, 50% for those with two ACEs, and 60% for those with three or more ACEs. Fortunately, relatively few adolescents experience a high number of ACEs. Specifically, in the 2011–2012 survey, 32% of the adolescents had not experienced any adverse experiences, while 44% had experienced one, 14% had experienced two, and the remaining 11% had experienced three or more.

Similarly, most children experience low levels of social and demographic risks at the family level. In addition to the ACEs measures, the National Survey of Children's Health assessed five measures of risk to children's development: (1) poverty, (2) living in a single-parent family, (3) parent(s) with low education, (4) family with four or more children, and (5) family unable to own or buy a home. As they do with respect to adverse experiences, most children experience low levels of social and demographic risk. Specifically, 44% had just one risk, 25% had two risks, and 18% had three risks. Only 14% experienced four or all five of the risks. But, again, those children with greater numbers of social and demographic risks also had lower well-being on a number of outcomes.

In sum, risks pose substantial challenges to children's development and well-being, and this pattern is robust across varied definitions of risk. Fortunately, data indicate that only a minority of children and youth face extremely high levels of risk. Given the serious implications of risk for these children, assessments of risk can help identify children who are at high risk and can inform efforts both to reduce risks and to mitigate their consequences for children's development.

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See also Achievement Gap; Adolescent Development; Dropouts; Stereotype Effects and Attributions: Inside and Out

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AUGUSTINE

St. Augustine (354–430 CE) was Bishop of Hippo, in North Africa, in the last decades of the Roman Empire. A towering figure of Western thought, Augustine's intellectual influence on philosophy and theology has extended for more than 14 centuries in fields far beyond Catholic Christianity. Admired by Protestants as much as by Catholics, his wider impact has been on philosophy, literary history, and theory. Historians of the late Roman Empire remain indebted to the insights his autobiographical *Confessions* provided of daily and especially academic life before the fall of Rome. After outlining salient features of his life, this entry will focus on those elements of his thought that have relevance for religious education, and for moral education more generally.

Augustine's early education was Christian; his mother, Monica, had ensured this. But his youth is marked more by contact with the "pagan" inheritance of classical Greece and Rome. Fond of literary composition and competition, at which he excelled, Augustine also completed a now-lost work on aesthetics. Before his conversion to Christianity, he taught grammar and rhetoric in Carthage and later in Milan.

There is an often-cited account of his conversion in a Milanese garden in 386 CE in which he hears

the instruction to pick up and read a book, which happens to be the Letter of Paul to the Romans, and specifically the passage (Romans 13:13–14) in which St. Paul abjures his Christian readers to avoid reveling and drunkenness, quarrelling, and jealousy, many of which activities Augustine saw in typical self-condemnation as characterizing his youth and early adulthood. This experience led to a period of retreat from the academic duties—he was a professor of rhetoric in Milan—to semimonastic existence at Cassisiacum. This was an important part of his postconversion life.

Under the pastoral guidance of St. Ambrose, Bishop of Milan, Augustine began to see the meaning of human existence as integrally related to the revelation of the scripture and the doctrines of the Church. Later, reluctantly accepting the ecclesiastical post as Bishop of Hippo, Augustine's entire postconversion life can be regarded as an attempt not only to be a guide to his diocese but also to philosophically and theologically defend and justify the orthodox teaching of the Catholic Church, and so his influence extended far beyond the remote corner of North Africa where he was bishop. No understanding of Augustine's impressive corpus of work is possible without seeing not simply a theological motivation but a deeply held and often personally passionate expression of his Christian faith.

Augustine's theological and philosophical output is always an expression of a personal faith, but it is also his perception of his duties as a bishop to guide and defend the faith against error. And, examining his early, preconversion life, there was no person he condemned more and in harsher terms than himself. Augustine is perhaps for this reason arguably most well known for the autobiographical work that charts his long and difficult conversion to Christianity, *Confessions*.

His educational reflections in this important work—as noted, it tells us much about schooling as well as university life in the classical world—are interesting for other reasons. Not least because in his self-recriminatory attack on the first three decades of his life he is adamant in suggesting that, apart from a life of dissipation, one notable impediment to conversion and a life of faith was a life of great learning, or at least learning misdirected.

For Augustine, learning should serve only one ultimate purpose, the seeking of God and through this personal salvation—and this was a position he maintained throughout his life. In a later work, *City of God*—his most significant philosophical and theological achievement—he makes the distinctions between two cities, the earthly city and the city of God. The former and the latter necessarily interact. Those who have found salvation and those who have not are journeying through a life on earth. It is a pilgrimage in which the fate of all individuals will be decided in the Final Judgment. Earthly life is therefore an opportunity to find that salvation through the grace of God. Any way of life that prioritizes the earthly city rather than the City of God, which places the temporal above the eternal, risks an irrevocable loss.

If we see this in Augustine's most noted philosophical and theological works, it is all the more apparent in *On Christian Teaching*, or *On Christian Doctrine*. Here, Augustine deals with matters of teaching and learning in respect of matters of faith. This work took Augustine a surprisingly long time to complete; he started the first of his four books around the time he composed *Confessions*, in 395 CE, but he did not complete the work until some decades later. The central question of *On Christian Teaching* is whether it is right and proper for Christian educators to use the works of classical authors and their techniques of argument (notably rhetoric) for the purposes of Christian teaching. Augustine, a master both of classical learning and Christian doctrine, argues that it is.

This was no arcane matter for Christian educators in Augustine's time. Arguably, it is one on which Christian educators still reflect. Today, it might be the extent to which learning can draw on fields outside of theology and the study of religion (perhaps when these same fields might in their origin and intention have originated in a critique of religion, such as sociology and psychology). For Augustine, it reflects a debate that had been rife from the foundation of the Church and through its early centuries: How far was it legitimate to incorporate classical or pagan philosophy—even those not critical of the faith—into Christian theology?

Augustine develops his argument as follows. Since the highest good and our only ultimate happiness reside in God, it is lawful for a Christian teacher to use the means even of pagan learning, for example, its techniques of rhetoric, if these can be safely directed toward the salvation of souls. From here, Augustine reflects on the different types of learners who might benefit from different types of approaches to teaching. Some learners, he states, are attentive and ready to learn; others require more significant rousing and motivating. It is instructive

to read Augustine closely here, for the matching of approaches to teaching and learning based on individual need is something that most modern educators would regard as critical.

Techniques such as rhetoric may be legitimate, then, so long as they are directed toward salvific ends. Augustine develops his argument further, paralleling a philosophy of education and a philosophy of language. He examines the latter—as modern linguistics and/or philosophers of language might—through an analysis of signs. In this discussion, Augustine highlights two key errors in the interpretation of language: (1) taking the figurative literally and (2) taking the literal figuratively. Augustine does not resolve the problem of truth in language but emphasizes that language in educational or any other context raises issues of truth that are inextricably interrelated to language.

For Augustine, the greatest (educational) problem here is that while the teacher needs eloquence, demonstrated with classical as well as Christian exemplars, in all, it is more important for the teacher to have wisdom: A distinctive feature of strong intellectuals is not the love of words but the love of truth. Augustine talks of a golden key—What use is it, he asks, if it cannot open any door? A wooden key would be far more beneficial if it serves that purpose.

But for Augustine, even more is required of the teacher than skill in the art and craft of teaching. In Chapter 27 of *On Christian Teaching*, Augustine writes that the teacher should mirror the ideals he or she teaches, for "whatever may be the majesty of the style, the life of the speaker will count for more in securing the hearer's compliance"; the teacher "who speaks wisely and eloquently, but lives wickedly, may, it is true, instruct many who are anxious to learn" but will to themselves be unprofitable. "Now these [teachers] do good to many by preaching what they themselves do not perform; but they would do good to very many more if they lived as they preach." "For," writes Augustine, "there are numbers who seek an excuse for their own evil lives in comparing the teaching with the conduct of their instructors." *On Christian Teaching* is thus as much a work of professional ethics as it is of practical theology and pedagogy.

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See also Aquinas and Thomism; Religious Education and Spirituality

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AUTONOMY

Individuals achieve personal autonomy to the degree that how they live must be explained as their own self-government. Personal autonomy is modeled on the self-government of the state, and the most conspicuous failures to achieve it are closely akin to failures of political autonomy. Those who live in fearful or unthinking conformity to the will of others fail to achieve personal autonomy, as do people who habitually succumb to inner drives they cannot control. The former condition is analogous to the state whose independence is subverted by some intimidating neighbor or colonial invader; the latter parallels the state that loses control to rebels within its own borders. An education for personal autonomy entails learning whatever enables human beings to achieve a valued state of individual self-government. This entry explores the long history of autonomy in Western philosophy of education and the controversies surrounding it in contemporary scholarship.

The previous paragraph points to the concepts of autonomy and education for autonomy. Both concepts are open to rival interpretations because individuals can disagree about where in the psyche to locate "the self" that properly rules and for which educational goals and processes are aligned to secure its rightful authority. This might be called the question of privileged location. Thus, we might agree that the concept of autonomy captures the paramount end of education even though our radically different

answers to the question of location entail disagreement about the education necessary to achieve that end.

Autonomy in Ancient Greek Philosophy

Western philosophy of education begins with Socrates in ancient Athens, and so too does philosophical argument about autonomy as an educational end. Because all we know about Socrates comes from the inconsistent writings of those who knew him, the details of what he believed are uncertain. What is clear is that he urged Athenians to subject their beliefs and values to critical scrutiny, to discard whatever was inconsistent or groundless, and to live in light of the truth so far as they reflectively grasped it, even if that led to public condemnation. The unexamined life was not worth living, and each of us must learn to do our own examining.

That is presumably the point of Socrates's notorious claim that he was not a teacher and taught nothing. For if we must learn to think and act for ourselves, we must each become our own teachers at some point. Others may facilitate that process through questioning and by tacitly inviting us to emulate their own autonomy. By such means, the "teacher," assuming for the moment that the word can be aptly used here, serves as a midwife to the birth of another's autonomous self. Thus, in Plato's earlier dialogues, which were likely written under the strong influence of his master, the role of Socrates as midwife/pedagogue is to draw out his interlocutor's own ideas with carefully crafted questions.

How did Socrates answer the question of privileged location? The ruling self resides in our capacity to assess evidence and argument in favor of principles or theories, independently of custom or the alleged expertise and authority of others. By exercising that capacity and encouraging others to do likewise, Socrates believed that we arrive at a humbling sense of how very little we really know and how vast and preposterous are the claims to knowledge that others make. Publicly exposing the ignorance behind others' claims to knowledge is a dangerous task if their prestige or authority is legitimated by these claims. Perhaps it is not surprising that the social subversiveness of Socratic autonomy led to his being charged and executed for corrupting the youth of Athens.

Socrates became a revered figure for later ancient philosophers, and his valorization of reason as the lodestar of human flourishing would become a dominant motif within the tradition. What was distinctive about Socrates among the great Greek philosophers, however, was a conception of reason that exalted the social independence of the examined life and its potential repugnance to the deliverances of all who claimed political or epistemic authority. In the case of Aristotle, for example, it is much less clear that the place of reason in the good life constitutes anything that could be aptly called autonomy. At the core of Aristotelian ethics is the idea of practical wisdom. Those who possess that virtue can reliably identify and choose the mean between opposing vices. We learn to become practically wise by emulating those who are already socially acknowledged as possessing that wisdom, and Aristotle assumes that such people will agree about where to find the mean. The Aristotelian conception of practical wisdom, thus, installs a deep moral conservatism as the fulcrum of his ethical theory and philosophy of education, a conception that leaves no room for the possibility of autonomous dissent and eccentricity of the sort that was celebrated in the life (and death) of Socrates. Virtue becomes conflated with high-minded respectability, and the critical edge of reason is blunted.

Autonomy and the Enlightenment

The advent of Christianity did not create an intellectual milieu congenial to exponents of autonomy. The fallen state of human nature in Christian doctrine is in deep tension with the idea that we can each find the best route to the true and the good by means of self-rule. Only with the dawn of the Enlightenment is there a reemergence of philosophical conceptions of self-rule and concomitant educational programs. Without doubt, the most educationally influential of these was expounded in Jean-Jacques Rousseau's great didactic novel *Émile*.

Among the watchwords of the Enlightenment was "nature," and the novel outlined a process of education from infancy to early adulthood in which conformity to nature was supposed to be the touchstone of good practice. Rousseau can also be interpreted as offering a distinctive answer to the question of privileged location. If *Émile* is to be our teaching manual, the rightful source of self-rule inheres in deep natural propensities that conventional educational practice inevitably thwart.

The novel's first sentence is among the most famous in the history of educational thought: "God

makes all things good; man meddles with them and they become evil." The task of a good education, then, if such a thing is possible at all, is to rear children in a way that keeps faith with the goodness of their nature and eschews the corruption of society. This is hardly a coherent undertaking given that human influence must intrude on the child's environment to elicit any learning above the most primitive level. The novel traces the education of its eponymous hero under the guidance of a wise tutor who systematically orchestrates Émile's experience behind the scenes with particular pedagogical goals in mind. The child believes that he is "learning from nature" when in fact nature has been surreptitiously manipulated to ensure a particular educational outcome. Despite its paradoxes, inconsistencies, and exaggerations, Rousseau's novel was to have a lasting influence on educational thought.

First, the idea that the natural cognitive and emotional development of the child places constraints on the educational process had a seminal influence on subsequent educational theory and practice. To some extent at least, the locus of educational direction has to lie with the child's evolving self and not merely with what is deemed desirable learning by the wider society. If the idea that children must be developmentally ready for what we teach them now seems to be a mere cliché, it is only because of Rousseau's overwhelming influence. Second, Rousseau conceived the developing self not merely in cognitive and volitional terms but also as a broadly affective process. The education of Émile was designed not merely to evoke a stable rational self that would rule against the grain of custom and social prejudice; it would also encompass our natural passions, most notably the compassion by virtue of which self-interest could be muted and reconciled to the interests of others. In its emphasis on the affective richness of human nature, Rousseau's theory paves the way for Romantic ideals of autonomy and authenticity that came to prominence in the late 18th and early 19th centuries.

Philosophical discourse on autonomy and the education suited to its realization has had a complex history since the publication of *Émile*, with important contributions from Immanuel Kant, John Stuart Mill, and others. Kant, for example, wrote a famous essay "What Is Enlightenment?" (1784) that opens with the straightforward statement, "Enlightenment is man's release from his self-incurred tutelage. Tutelage is man's inability to make use of his understanding without direction from another." He attributed this tutelage not to lack of reason but to lack of courage to use it independently.

The 20th Century and Beyond

Since the 1970s, the notion of autonomy has entered a particularly vibrant phase of development that has impinged on some of the most central questions about educational policy in diverse and democratic societies. The major inspiration for this is John Rawls's theory of justice.

Rawls argued that a certain ideal of the person was latent in the public culture of contemporary democratic societies. An essential feature of the ideal was that people must be free to revise their goals in life when new experience and knowledge show them that revision was needed. That is why individual liberty is such a widely cherished part of our public culture, or so Rawls maintained. But if that is why liberty matters, the argument also shows that people need to learn to think critically for themselves if revision to their goals is to be done when desirable. Unlike Socrates, Rawls did not say that the unexamined life is not worth living. But he is clear that the critical capacity to examine our lives—the capacity for autonomy, in other words—is integral to an ideal of the person that democratic citizenship presupposes.

Autonomy is crucial to Rawls's theory at another point. In addition to the capacity to revise our goals in life, Rawls claims that a sense of justice is fundamental to the democratic ideal of the person. Thus, we are all said to have a duty to support just institutions where they exist and to play some part in creating them where they do not. But this assumes that individuals have the interest and intellectual capacity reliably to assess the justice of institutions, which in turn presupposes that they have received an education that cultivates the relevant interest and capacity. An education for autonomy is thus a necessary component to the sense of justice entailed by the democratic ideal of the person.

In his later writings, Rawls emphasized the suitability of his theory of justice for societies in which pluralism was acknowledged as a permanent fact of life. He believed that our failure to come to agreement about many of the most fundamental ethical and religious questions was to be explained by the inherent limits of reason itself rather than by passions or interests that subverted our ability to reason. Therefore, a theory of justice should try to accommodate so far as possible our reasonable disagreements about what is good and right. This

raises an obvious question: Would an education that cultivates personal autonomy in the sense entailed by Rawls's theory really be acceptable to *all* reasonable persons in a democratic society?

Consider the fact that millions of people in currently democratic societies would describe themselves as religious conservatives who believe that obedience to God (or some earthly surrogate chosen by God) is the only basis for living as we should. Teaching children to obey God, according to the strictures of this or that particular religious tradition, and teaching them to cultivate autonomy are tasks that are not always easily reconciled, to say the least. Note that on Rawls's account, the cultivation of autonomy would mean that we should encourage children to think of their conceptions of the good as revisable constructs, to be modified or even abandoned altogether when reason and experience show that we should do so. But if my conception of the good is to follow the biblical Abraham who would even kill his son when he thought it was God's will, the prospect of revising that conception whenever my own reasoning tells me to do so will seem utterly scandalous.

The worry is that Rawls's theory cannot be nearly as accommodating of diversity as he thinks. On the one hand, his sparse explicit remarks about education assure us that any education for citizenship authorized by his liberalism should not be a burdensome or controversial undertaking. On the other hand, the alluring ideal of the person at the core of his theory suggests that an education in keeping with that ideal must substantially limit the scope of religious diversity in extant democratic societies.

But the problem here is not unique to Rawls's conception of autonomy. Any conception of the concept will affirm the value of thinking for oneself and choosing accordingly, and to the extent that it does, conflict with some varieties of cultural and religious conservatism is inevitable. That is as much a problem for adherents of Socrates as it is for devotees of Rawls.

How we should respond to this impasse is not altogether clear. One possibility is that we lack any sufficient reason to favor autonomous overheteronomous lives in the public provision of education. But the argument for democracy has often been thought to depend on the idea that citizens can learn to think critically and independently about justice and the common good and thereby advance these ends through their political participation. Otherwise, no special connection between democracy and these laudable public ends is evident. If education should do nothing to establish the autonomy that enables citizens to discharge their civic duties well, at least one common defense of democracy has collapsed.

The only alternative to autonomy is to surrender our judgments to the will of others. That strategy is dubious not because we should expect people who think for themselves to think wisely all the time. What makes it dubious is the vast evidence we have to distrust elites who have been given the power to dictate how others choose and what they will believe. Sober worries about the fate of those who are intellectually and ethically subordinated in social hierarchies may well give us more than enough reason to cherish autonomy in personal as in political contexts.

To cherish autonomy as a central aim of education does not mean that no other aims are justified or that deference to values outside the realm of education might not properly limit its promotion. More work on these topics would enrich our understanding of autonomy in education. For example, we could reasonably expect that a consequence of cultivating autonomy more vigorously would be the decline of cultural and religious groups that depend on heteronomous loyalty. That would be a loss of diversity. On the other hand, a more widely diffused autonomy could inspire new ways of life, as Mill expected. Could new sources of diversity adequately compensate for the loss of traditional sources? This question and many others about the connection between autonomy and other educational or ethical values will preoccupy philosophers of education for many years to come.

Eamonn Callan

See also Kant, Immanuel; Mill, John Stuart; Plato; Rawls, John; Rousseau, Jean-Jacques

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B

Bacon, Francis

Lord Francis Bacon (1561–1626), an English lawyer, statesman, and thinker, is primarily renowned today for his philosophy of science. Writing at the dawn of modernity, he offered a penetrating critique of contemporary sciences, an innovative method for the study of nature, and a revolutionary vision of human progress. While most of Bacon's practical suggestions were never embraced, his vision, which ties together social, technological, and scientific progress, has become one of the building blocks of Western civilization. Bacon's influence on the development of education was profound but indirect. Drawing on Bacon's vision, his adherents played a critical role in shaping education into its present form.

At the basis of Bacon's philosophy stands a rejection of the then dominant view that the sciences were limited to providing a better understanding of the world, and his conviction that their primary aim is to increase humanity's power over nature in order to make life safer, longer, and more convenient. Examining the sciences from this innovative utilitarian perspective, Bacon concluded that they were in a poor state and identified the main causes for it. Bacon points, inter alia in his conception of the "idols of the mind," to what can be divided into two sets of causes. The first stems from the limitations of human nature. According to Bacon, our understanding, modes of association, language, and personal tendencies are inherently flawed and naturally lead us into error and a distorted conception of nature. The second set of causes is the prevailing intellectual traditions of the time. Bacon mounted a devastating critique of contemporary practices, philosophies, and research methods. He argued against the common view that the study of nature and piety conflicted, objected to the fusion of religious and scientific ideas, accused Aristotle of corrupting the natural sciences with his overuse of deductive logic, attacked the excessive individualism that dominated contemporary research, and struggled against superstition and occultism. For Bacon, existing systems of thought not only failed to correct the inherent defects of human nature but also became in themselves barriers to scientific advancement.

Bacon was persuaded, however, that if the reform plan he put forward—mainly in his *The Advancement of Learning* (1605) and *The New Organon* (1620)—were embraced, the limitations of human nature could be overcome and the sciences could rapidly progress.

The key to success, he held, was to render the study of nature systematic. This was to be done through five key mechanisms. First, religion and the natural sciences were to be separated and all existing intellectual traditions abandoned. Second, all forms of human learning were to be mapped and classified into different branches. Third, rigorous and comprehensive data collection was to take place in each branch of the natural sciences. Here, he also advocated a reform in the methods of data collection. Bacon held that observations must be made the principal tool for studying nature, but his greatest innovation in this domain lay in his belief that man-made manipulation of nature, namely, experiments,

is an important means for acquiring knowledge. Fourth, eliminative induction was to be used in order to derive general principles from the data collected. In this complex process, phenomena that share a common feature, for example, that they produce heat, had to be broken down into their most basic elements and the general cause responsible for their common feature, producing heat in our example, identified through the elimination of all alternative possibilities by way of comparison. Finally, research was to be kept public and preferably institutional to enhance the method's effectiveness. If this program were followed, Bacon argued, humanity could gain power over nature and ameliorate life.

Bacon even provided a vision of what life could look like if the sciences advanced. In his unfinished utopian novel *New Atlantis* (1627), which was published posthumously, he portrays a technologically advanced society in which all people enjoy a comfortable life after nature has been conquered, scarcity eliminated, and life prolonged through the work of a central research institution.

Historically, Bacon's proposed method of scientific investigation was far removed from the one that actually led to the development of science and technology. Although Bacon has been credited with some important innovations, such as stressing the role of observation and experimentation, his method has been severely criticized for ignoring the importance of mathematics, for seeking localized technological advancement instead of comprehensive scientific theories, for overemphasizing induction, for disregarding the role of hypothesis in scientific development, and for aiming at an impossible goal—the complete domination of nature. These weaknesses in Bacon's theory have even led some to cast doubt on his contribution to philosophy. On the other hand, Bacon's vision of a scientifically and technologically advanced society has proven to be extremely influential. Within a few decades, Bacon's program of institutional scientific research aiming at useful discoveries led to the establishment of national societies for the advancement of science in England, France, and, later, the rest of the world. In the 18th century, Bacon's vision of progress was adopted by the thinkers of the Enlightenment and woven into the substructure of modern Western thought. Ever since, the innovative link created by Bacon between scientific progress, technology, institutional research, and improvement of living conditions has steered, despite the growing critique of it, the development of Western culture.

Bacon's vision has also had a momentous impact on the formation of modern education. Although he hardly wrote on the subject per se, Bacon's views have important educational implications, which were developed by his followers. Inspired by Bacon, 17th-century reformers such as Johann Amos Comenius argued that education was essential for preparing the ground for scientific progress. Accepting the aims of Bacon's program, Comenius held that it implied reform not only in research but also in education. To secure scientific progress, Comenius maintained, education has to be made systematic and universal. In the 18th century, plans for a national educational system were drafted with Bacon's ideal of progress in mind. In these plans, education and the curriculum were reoriented toward the practical and increasingly seen as serving science and technology. Eventually, in the 19th century, educational systems were erected along the same lines. At present, Western educational systems are still guided, perhaps even increasingly so, by Bacon's vision of progress. It is Bacon, therefore, who, for better or worse, set the framework in which our educational systems currently function.

Tal Gilead

See also Aristotle; Comenius, Johann Amos; Positivism; Utopias

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Beauvoir, Simone de

The French writer, philosopher, and activist Simone de Beauvoir (1908–1986) is recognized as one of the most significant intellectuals of the 20th century. Her primary writings date from the 1940s and 1950s, although she wrote her first philosophical

piece while still a secondary school student. Her often literary style contributed to a changed conception of philosophy in Continental intellectual life. Her writings included novels and plays, letters and diaries, and several volumes of autobiography, along with more traditional philosophical essays. Although still contested, it is important today that her philosophical occupation across these genres be emphasized. Beauvoir is best known for contributions to two philosophical arenas: existentialism, with its connections to phenomenology, and Marxism, and to a birthing of modern feminist theory. In these areas, her work has been of interest to contemporary philosophers of education, especially but not exclusively those concerned with feminist issues and Continental thought. Her writings continue to serve as an important and empowering model for new generations.

Central to Beauvoir's philosophy is her biography. She was born in 1908 into an upper-middle-class Parisian family that underwent hard times; her mother especially sacrificed a lot for her two daughters. They had a traditional Catholic girls' education, and Simone, without a dowry, prepared to go to work. She studied mathematics and science (opened only a few years earlier to female students) and graduated from two preparatory schools in these subjects as well as in literature, Greek and Latin, and philosophy. Although not allowed to enroll, she gained access to courses at the Sorbonne and lectures at the École Normale Supérieure, the premier national institution for all teachers of philosophy. In 1929, she became the youngest woman ever to earn the national degree in philosophy. Her economic security was realized initially in employment at *lycées*, the well-known regional secondary schools in which most philosophers taught.

During the period when she was studying for the degree, she met Maurice Merleau-Ponty and Jean-Paul Sartre. In the national exam, the legend is that the judges debated hotly whether to award first place to Beauvoir or Sartre; perhaps he was given the highest rank because he was male. Merleau-Ponty remained a true friend throughout her life, and Sartre, as is well known, was her "significant other" personally and professionally. Together the three spearheaded the existentialist movement (a movement that rose, briefly, to a prominent position in the philosophy of education in the United States in the late 1950s to early 1960s).

Beginning in 1943, the first of five novels appeared; the fourth, *The Mandarins*, earned her the nationally prestigious Prix Goncourt in 1954. Her first philosophical essay was published in 1944, and the two most important philosophical texts followed: *The Ethics of Ambiguity* in 1947 and *The Second Sex* in 1949.

Today, it is well understood that Beauvoir was always a philosopher, even as she resisted the label. This was perhaps due to her perception of "prejudice" against women intellectuals of her generation and to her own "debt" as the protégée of Sartre. Her personality strongly figured in her philosophical approach; she was an often unconventional, intense, passionate, and highly introspective person. Overall, she envisioned philosophy in nontraditional ways. First and foremost, while standard philosophy was abstract and oriented toward universal system building, this was not her orientation. Instead her approach was concrete and situational, a view named "the philosophy of lived experience." It focused often on the everyday lives of persons, of self and others, and was more ethical and political than epistemological. This foundational experience was universal, common to everyone, but it was also particular, as it differed for each. For Beauvoir, experience for women was importantly distinct from that of men.

Recent commentary on Beauvoir's philosophy has recognized its affinity to contemporary poststructuralist writings. She was not part of this tradition, but central concepts in her work do resonate with later French philosophers. These ideas include ambiguity, embodiment, subjectivity and intersubjectivity, and freedom. For her, an ethics resulted. To begin with, ambiguity is basic to the human condition, shared by all, and it is something to be embraced. In her text *The Ethics of Ambiguity*, there is no philosophical "search for certainty" and no detached thinker. Ambiguity arises out of experiencing the inevitable tensions of the world.

Ambiguity is tied not only to consciousness but also to a materiality: Humans are embodied. In *The Second Sex*, Beauvoir introduces the distinction between sex and gender and, in analyzing the way in which women experience their bodies, shows that embodiment is central to experience, to making choices, and to carrying out actions. Bodies are key in subjectivity.

Beauvoir's third concept, subjectivity, is used in dealing with the modern problem of the relationship of self to the world, especially to others: Each self has a desire to be, to achieve a transcendence that cannot be realized. The self is always at once both solitary and potentially in solidarity, interrelated to others. Unlike some other existentialists, in

Beauvoir's philosophy, subjectivity and intersubjectivity are one and the same and are constitutive of existentialist freedom.

Finally, Beauvoir's philosophy aims for a "new synthesis," an ethics that retains a modern rather than a postmodern aim. Out of this ethics, a politics emerges that incorporates the ambiguity and indeed the practical failures of everyday life—multiple paths for action may be seen to be possible, but the choices that are made are ultimately pragmatic, for God, state, or Other cannot be relied on for life's answers. There is only the lived experience of all.

Especially her contributions to existentialist and feminist theory, and to the politics that resulted, remain significant for contemporary philosophy of education and for all educators committed to social justice.

Lynda Stone

See also Continental/Analytic Divide in Philosophy of Education; Embodiment; Feminist Ethics; Phenomenology; Sartre, Jean-Paul

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Behavioral Objectives and Operational Definitions

The topic of behavioral objectives in education is clearly distinct from that of operational definitions. They have a different origin, since the behavioral objectives movement arises out of behaviorist theory in psychology, while defining concepts "operationally" originated in the quest for clarity in meaning in scientific and everyday life. Though logically distinct, behaviorism and the behavioral objectives movement latched onto operationalism as a method for combating introspection as a source of knowledge of psychological processes and as a way to rid psychological concepts of subjective meaning in the quest for an objectively verifiable science of behavior. This entry discusses operationalism, behavioral objectives, and their use in education, and criticism of the behavioral objectives movement.

Operationalism

"Operationalism" was given full-blooded treatment by the Nobel Prize–winning physicist P. W. Bridgman in *The Logic of Modern Physics* (1927), though his operationalism was anticipated by the work of the American pragmatist philosopher Charles S. Peirce. Peirce (1878/1992) formulated a particular pragmatic maxim of operational intent as follows: "Consider what effects, which might conceivably have practical bearings, we conceive the object of our conception to have. Then, our conception of these effects is the whole of our conception of the object" (p. 132). Peirce insisted that this maxim is about meaning—a "maxim of logic"—simply a method for more clearly defining one's terms. Like Peirce, Bridgman was concerned with how to make our concepts clear and distinct. Bridgman was greatly concerned that physicists had imported terms from one area of physics into another without recognizing that the same term no longer picked out the same concept. The result was conceptual confusion and theoretical dissolution. So Bridgman (1927) turned Peirce's pragmatic maxim into a more explicit operational maxim: "In general, we mean by any concept nothing more than a set of operations; the concept is synonymous with the corresponding set of operations" (p. 5). Bridgman here used the example of length in illustrating his operational maxim: Its meaning is given by the various observable and repeatable procedures and operations. Such a stance, if taken literally, however, creates problems of its own. It seems to imply that different procedures and operations create multiple concepts of length, all with different meanings, when what is wanted is one concept of length, if possible, with multiple ways of determining it. Despite the misfortunes of operationalism as a method for determining the meaning of

scientific concepts, it is the tough-minded spirit of operationalism that moved behaviorist psychology to adopt its attitude and prefer operational definitions cast in behavioral (observable) terms in dealing with educational objectives.

Behavioral Objectives

In the modern era, J. F. Bobbitt's *The Curriculum* (1918) stands out as the first influential text advocating the design and selection of educational objectives; as an "efficiency expert," Bobbitt extolled the use of objectives in curriculum planning. Though differing with Bobbitt's utilitarian approach and rooted within the progressives' emphasis on individual development, Ralph Tyler (1949) extended Bobbitt's embrace of educational objectives with an additional focus on their evaluation in his influential *Basic Principles of Curriculum and Instruction*. This book arose out of Tyler's experience as the lead evaluator of the "Eight-Year Study" (1933–1941), a Progressive Era attempt to recast high school curricula.

As Tyler narrowed his focus to evaluation of the attainment of educational objectives in curriculum planning, he advocated the formulation of objectives in more specific terms to permit finer-grained assessments of student learning. Though still fairly general in scope, these objectives could then be related to content and student behavior in the business of planning. Tyler and his students—for example, Benjamin Bloom, chair of a committee that produced the influential *Taxonomy of Educational Objectives* (1956) and its follow-ups—could scarcely be considered to be "behaviorists," given their holism and their integration of the cognitive and affective domains of human experience, along with the psychomotor, into their work. However, their growing tendency to emphasize the connection between behavior and evaluation, through testing, prepared the stage for the "scientific asceticism" of behavioral objectives.

Behaviorism operationally defines learning not in cognitive or mentalistic terms but as a more or less permanent change in behavior. In particular, the influential psychologist B. F. Skinner often defined learning operationally as nothing other than changes in the frequency of a behavioral response (see, e.g., Skinner, 1953). The behavioral objectives movement has taken these operational definitions of the concept of learning seriously in determining the full range of educational objectives, asserting that all meaningful educational objectives should conform to a behavioristic specification. This sets a problem noted by R. H. Ennis (1964): "How can we give operational definitions without unduly restricting the meaning of the terms in which we state our conclusions?" (p. 183). In other words, does the behavioristic definition of learning unduly restrict the language of educational objectives across the cognitive, affective, and psychomotor domains noted by Bloom and colleagues? It might be thought that the greatest difficulties for a behavioral treatment of educational objectives arise in the cognitive and affective domains. But even psychomotor learning in education may elude a behavioristic analysis.

Strongly influenced by Skinner and others, R. F. Mager returned the analysis of educational objectives back to the preprogressive, utilitarian strain introduced by Bobbitt. He drew his inspiration from factory and military settings that featured stepwise functions in the completion of a product or task. His *Preparing Objectives for Programmed Instruction* (1962) became a sensation in certain quarters and codified the approach to behavioral objectives in education. In dealing with the cognitive domain, Mager expunged terms such as *knows*, *believes*, *understands*, *feels*, *appreciates*, *grasps the significance of, acknowledges*, and so on, in the construction of objectives because they implicated unobservable, subjective, mental events and states that could not be controlled for, replicated, or measured. He permitted only terms that seemingly implicated "overt" behavior that could be replicated and measured: *puts*, *points*, *circles*, *recites orally*, *removes*, *sorts*, *counts*, *underlines*, and so on. Other, "softer" proponents of behavioral objectives realized that not all mentalistic-infected terms could be dispensed with in the construction of objectives without impoverishing educational discourse or narrowing the phenomena of teaching and learning. However, they require that a behavioral indicator accompany each use of a cognitive term. As for the affective domain, if not exorcized (since there is no use for mentalistic or internal terms such as *feels*, *fears*, *motivates*, *intrinsically satisfies*, etc.), at best such terms are subject to dispositional analysis in terms of behavior.

According to Alberto and Troutman (1999), the construction of each behavioral objective should identify four elements:

1. The person(s) for whom the objective is written (the learner)
2. The behavior targeted for change
3. The conditions under which a behavior will be performed

4. Observable criteria for determining when the acceptable performance of the behavior occurs

The desired behavior itself should be clearly specified in operational behavioristic terms, something that is repeatedly observable, and its extent measurable, and the conditions of learning clearly specifiable and repeatable.

In later years, Robert Mills Gagné and Leslie J. Briggs (1974) incorporated the notion of a learned-capability aspect into the specification of objectives that indicates the kind of learning category for the intended behavior. Otherwise, a silo might envelop each behavioral objective. This treatment by Mager, Gagné, and others has been quite influential in education, even if there has been little understanding of the psychology and philosophy from whence it rose. In education today, the behavioral objectives movement is especially strong in test design and measurement, assessment, special education, and instructional design. We may see the latter at work in many colleges' departments of educational technology.

Critique

The behavioral objectives movement suffers from the same defects that plague psychological behaviorism; the attempt to account for all learning as merely changes in behavior is similar to the way Skinner's behavioral reinforcement induced his pigeons to dance—they made a series of movements, mechanically, to receive food but had no conception that they were "dancing." But propositional learning that results in understanding or grasping the meaning of something, on the face of it, simply cannot be banished or reduced to simple behavioral learning—learning to appreciate a poem, for example, has no strict behavioral "indicator." Coming to be a person who maintains certain moral principles and beliefs as a result of study, reflection, and education is a kind of "learning to be" that appears to elude any facile deconstruction into stepwise behavioral elements. Gestalt psychology's analysis of insightful learning, "ah ha!" moments of connecting separate events or ideas, and cognitive psychology's necessary recourse to "mentalistic" concepts makes far more sense of the phenomena elucidated by Bloom and colleagues' taxonomies than Mager's curt dismissal of most of them.

Finally, there is behavioral learning. Here, behavioral objectives might find a home in education. The question, however, turns on another: Did Skinner really induce his pigeons to *dance?* As pointed out earlier, using operant conditioning, he trained them to repeat dancelike movements, and doubtless, their behavior looked like a dance, given their precise steps in a pretty pattern. And doubtless we could easily write a perfect behavioral objective for the pigeons and confirm it repeatedly. But did they really learn to dance? T. F. Green's (1964) analysis of learning the complex activities that we teach in education, including dance, yields a resounding "no." Learning such rule-governed activities, he urges, requires acquiring a norm that invites not simply conformity but obedience to it, and a capacity for making critical judgments of one's own performance and that of others. Moreover, to reduce teaching to bringing about behavior conformity is to misconceive it—teaching ultimately should be aimed at the enlargement of the human capacity for action and the critical capacity for judgment, what Israel Scheffler (1965) has called "passing on those traditions of principled thought and action which define the rational life for teacher as well as student" (p. 143).

In this way, the combination of behavioral objectives with an unsatisfactory, reductionist operational definition of "learning" can be an immense source of mischief, if not danger, in education.

David P. Ericson

See also Behaviorism; Taxonomy of Educational Objectives

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Behaviorism

Behaviorism, or "the science of behavior" as some of its adherents occasionally called it, is a broad movement in psychology that evolved during the early decades of the 20th century—although its roots can be traced back, through British empiricist philosophers such as John Locke and David Hume in the late 17th and early 18th centuries, to the ancient world (several behaviorist principles can be found in Aristotle's *De Anima*). Focusing originally on animal and human learning, the modern movement broadened during the 20th century, and behaviorist approaches can be identified in many of the social sciences and even more widely afield—for example, the Oxford philosopher Gilbert Ryle's *The Concept of Mind* (1949) is often identified as a major work in the philosophical behaviorist tradition. This entry first identifies the basic concepts underlying behaviorism and then describes the approaches taken by John B. Watson, Edward Thorndike, B. F. Skinner, and Ryle.

The Basic Orientation

In defining psychology as the science of behavior, the behaviorists were staking out a position that was in revolutionary contrast to the traditional account, in which psychology was the study of mental life. The three factors that directly shaped this revolution were stated clearly enough in the feisty opening lines of an essay in the *Psychological Review* (1913) by John B. Watson (1878–1958)—who, two years later, on a rising tide of popularity, swept into the presidency of the American Psychological Association:

> Psychology as the behaviorist views it is a purely objective experimental branch of natural science. Its theoretical goal is the prediction and control of behavior. Introspection forms no essential part of its methods, nor is the scientific value of its data dependent upon the readiness with which they lend themselves to interpretation in terms of consciousness. The behaviorist, in his efforts to get a unitary scheme of animal response, recognizes no dividing line between man and brute. (1913/1948, p. 457)

Awareness of these factors did not begin with Watson; they were part of the intellectual environment of the human sciences. First, if psychology was to be categorized among the sciences, it had to be possible to carry out experiments and test its hypotheses, which would entail making measurements and observations that would result in data that were publicly accessible and thus open to replication or rejection within the scientific community. None of this seemed possible if the focus was on mental or conscious events (which were private to the individuals having them); the same difficulty did not exist with behavior. Second, the method by which conscious life was investigated—introspection, or observation of one's own "inner" mental processes—faced several difficulties. Practitioners of introspection produced accounts of "inner" or mental experience that sometimes were in conflict, and there was no apparent way to resolve these differences, no way to put the rival accounts to the test. Added to this was the obvious difficulty that it was problematic to suppose that a person could accurately observe his or her own conscious processes while at the same time being fully engaged with them—for example, trying to remember some complex event or entity while at the same time making detailed observations about what this remembering process entailed. (Ryle and other philosophers have pointed out that the use of "inner" in accounts of introspection is a metaphor, a point to which the discussion will return.)

The third factor alluded to by Watson was one traceable to the impact of Darwin's *On the Origin of Species* (1859). Although in this work Darwin studiously avoided mentioning the evolutionary origins of the human race, it was clear—and was made explicit in his later writings—that he regarded *Homo sapiens* as part of the animal kingdom and as related to other animal species by way of evolutionary "descent." Thus, Darwin established "genetic continuity" within biological nature, according to which

principle there was "no dividing line between man and brute." One consequence of this for psychology was that the techniques used to study animal behavior by the so-called comparative psychologists could also be used to study humans, for humans also were animals; and just as the study of animal psychology was progressing without (necessarily without) the use of introspection, the same might be expected with respect to the psychological study of humans.

The Behaviorism of John B. Watson

Watson's behaviorism built on the work of the Russian physiologist Ivan Pavlov on conditioned reflexes. Pavlov had found that in naturally occurring reflexes, in which a stimulus automatically produced a specific response (the sight of food producing a flow of saliva in a hungry dog was the classic case), if a second stimulus was regularly associated with the natural stimulus (if, e.g., a bell was sounded when the food was presented), then this second stimulus eventually would be able to elicit the response by itself—it would have become a "conditioned stimulus." Watson used this mechanism to explain how humans acquired their individual repertoires of behavioral traits. In one notorious experiment, he showed how a young child (Albert) could acquire a fear of white furry animals (perhaps even of Santa Claus with his white flowing beard!). Albert was allowed to play with a tame white rat, and then the experimenter frightened him by striking, behind his back, a loud gong. The natural reflex here—a stimulus of a loud noise producing the response of fear—became transformed into a conditioned reflex in which the sight of a white furry animal became a conditioned stimulus that produced the fear response. In his book *Psychological Care of Infant and Child* (1928), he argued that careless parents were responsible for conditioning all of their children's bad habits and fears in a similar fashion, and he referred to the psychological "sledge-hammers" that existed in the home. But, fortunately, the very same processes of conditioning, properly directed, could lead to salvation. In his book *Behaviorism* (1925), he made this bold determinist claim: "Give me a dozen healthy infants, well-formed, and my own specified world to bring them up in and I'll guarantee to take any one at random and train him to become any type of specialist I might select" (p. 104).

Some reviewers were swept off their feet by the possibilities raised by Watson, but others—perhaps more discerning?—were appalled. Aldous Huxley produced a book-length response to Watson, his novel *Brave New World* (1932), which depicted a future in which babies were mass produced from bottled embryos and then subjected to schedules of conditioning to equip them with the attitudes and abilities the leaders of society deemed fit. In a scene that could only have been based on Watson's experiment with young Albert, Huxley (1932/1958) described how youngsters in the "brave new world" were conditioned to have a lifelong fear of books: As the babies crawled toward brightly colored, attractive books that had been laid out, suddenly "there was a violent explosion. Shriller and ever shriller, a siren shrieked. Alarm bells maddeningly sounded." The passage ended with the chilling words "What man has joined, nature is powerless to put asunder" (pp. 28–29). Watson seemed undaunted by such criticisms; but in an interesting twist of fate, he left the academic world due to personal difficulties and took his behavior-shaping skills to the world of advertising, where he had a successful second career.

Apart from the moral issues raised against Watson, and the practical problems of putting his deterministic vision into operation, there was an important theoretical problem—the mechanism of classical conditioning that he took as basic for shaping behavior depends for its effectiveness on locating natural reflex mechanisms that had the desired responses as their built-in end point (fear, interest, or whatever) and in which the natural stimulus leading to these end points could be replaced by conditioned stimuli. As the number of suitable natural reflexes is extremely limited, the mechanism of classical conditioning is necessarily of limited educational use. However, there is another mechanism available that offers greater possibilities for the behaviorist's educational dream of shaping behavior. This mechanism was investigated around the turn of the 20th century by E. L. Thorndike and studied further, refined, and applied in a variety of ingenious ways around the mid-20th century by B. F. Skinner.

E. L. Thorndike and the Law of Effect

Thorndike (1874–1949) started his research into animal learning while a doctoral student at Harvard—he kept his experimental subjects, chickens, in the basement of the home of his advisor, William James. He moved and completed his studies at Columbia University and soon joined the faculty of Teachers College, Columbia, where he remained for about

40 years. In contrast to Watson, who focused on substituting or conditioning a new stimulus to replace the naturally occurring one in an in-built reflex arc or S–R (stimulus–response) connection, Thorndike was interested in the effect of repetition and also in the effect of rewarding of the responses that animals made to the situations they were in. He found that the more often a particular response was made in a given situation, the more the connection or association between that situation and that specific response was "stamped in"; later, his position came to be known as connectionism, but its relation to the associationism that stemmed from the British empiricist philosophers was also evident (although their focus had been on association of ideas, not on association between situations and the behavioral responses to them). Thorndike also found that if a response led to a favorable outcome (i.e., if it was rewarded or reinforced), this behavior was more likely to occur again in a similar situation. This can be illustrated by one of his famous studies on cats: If a hungry cat is imprisoned in a suitably constructed cage, outside which is located a "reward," such as a bowl of milk, the cat eventually will, by way of its random thrashings about, hit an escape mechanism and thus gain access to the reward. On subsequent imprisonments, the cat will repeat this behavior, but the time taken for the animal to escape will decrease as it learns—via reinforcement—to hit the mechanism. This finding could be depicted in the form of a so-called learning curve, and it also was formulated in general terms as Thorndike's famous "law of effect," which stated that an act in a particular situation will be more likely to recur if it "produces satisfaction," and it will be less likely to recur if it produces "discomfort." The rewarding of desired behaviors on the part of a student and the punishing of undesired behaviors, of course, are important strategies virtually taken for granted by teachers.

Several lines of criticism of Thorndike's work emerged. First, although his scientific work was of high quality, Thorndike was so convinced that careful laboratory studies such as those described above pointed the way to improvement of teaching practices in schools that he found it unnecessary to actually carry out studies or make observations in real classrooms. It is a common experience among researchers, however, to find that laboratory findings do not hold up in uncontrolled real-life situations. (It is worth noting, in passing, that Thorndike also carried out important laboratory studies on the issue of transfer of learning, discussed elsewhere in this encyclopedia.) The point was also made that Thorndike's experimental designs constrained what he could discover—in essence, by placing animals in situations where intelligence was of no use to them (e.g., by placing them in a cage with a "secret" escape mechanism that could be triggered by chance), he "found" that intelligence played no role in learning and that the process could be fully explicated in terms of repetition and reinforcement. In contrast, the German Gestalt psychologist Wolfgang Köhler, who made this criticism, placed his experimental subjects—chimpanzees—in situations involving problems for which the elements of an intelligent solution were available to them (and he discovered that they did, indeed, reflect and act intelligently!). The philosopher Bertrand Russell (1927/1960) brilliantly summarized this whole situation:

> One may say broadly that all the animals that have been carefully observed have behaved so as to confirm the philosophy in which the observer believed before his observations began. Nay, more, they have all displayed the national characteristics of the observer. Animals studied by Americans rush about frantically, with an increasing display of hustle and pep, and at last achieve the desired result by chance. Animals observed by Germans sit still and think. (pp. 32–33)

B. F. Skinner and Operant Conditioning

Thorndike's work on learning was built on by a number of subsequent researchers, of whom the best known was the Harvard psychologist B. F. Skinner (1904–1990). In addition to his experimental work, Skinner popularized his ideas by way of a utopian novel, *Walden Two*, depicting a society that was organized on behaviorist principles and also through inventions, books, and essays—some of which contained lively philosophical argumentation and all of which were marked by clear and often provocative prose. Using rats, he studied "schedules of reinforcement" and found that to be "stamped in," a target response need not be reinforced every time it occurred—indeed, responses that had been intermittently and randomly reinforced persisted longer after reinforcement ceased than did responses that had been rewarded every time they had occurred. He demonstrated that a pigeon could be taught to dance in a rather short period of time by sequentially reinforcing random movements it made that happened to be in directions required by the dance. He

developed the "teaching machine," which delivered programmed instruction; the material to be learned was broken down into small units, each followed by a few questions, and if these were answered correctly, the learner was immediately reinforced by positive feedback and then allowed to proceed to the next small unit. Skinner called this process of reinforcing desired behavior that had been randomly generated in response to a particular setting or environment "operant conditioning" (for the target behavior was, of course, operating on that environment or situation).

Skinner was outspoken in his insistence that psychology must focus on observable behavior. He had studied some philosophy of science when logical positivism was influential, and thus he held that offering explanations of human behavior in terms of unobservable inner entities (ideas, motives, etc.) certainly was unscientific and possibly meaningless. He attacked the notion that humans were capable of acting autonomously by arguing that this transferred the causes of human action from environmental factors (e.g., rewards and punishments) to an unobservable and mysterious "inner" entity—to an inner autonomous, ghostlike creature. Nevertheless, he offered a small but carefully worded concession:

> A purely private event would have no place in a study of behavior, or perhaps in any science; but events which are, for the moment at least, accessible only to the individual himself often occur as links in chains of otherwise public events and they must then be considered. (1953/1966, p. 229)

This opened the way for psychologists to take seriously the existence of so-called intervening variables, and it possibly was a response to the work of another behaviorist, E. C. Tolman (1886–1959), who had produced evidence that seemed to indicate that rats running through a maze produced a mental map that could guide them when certain aspects of the layout of the maze were changed. (With hindsight, Tolman's work can be considered the point at which behaviorism started to erode.)

Skinner's work is subject to several criticisms. First, the relationship between behaviorism and the logical positivists' rejection of metaphysics (displayed in both Skinner's and Watson's attitudes toward unobservable inner processes or entities), which at the time appeared to be a strength, is now likely to be regarded as a weakness—for attitudes toward metaphysics have softened, and while metaphysical statements are untestable, nevertheless they can be discussed meaningfully and held open to criticism. Second, Skinner's attempt to account for all learning in terms of operant conditioning does not seem viable; there are many different types of learning, some, although not all, of which are given short shrift when discussed in purely behavioral terms. For example, learning a complex thing like Einstein's general theory of relativity does not seem explicable in terms of a mechanism that centers on reinforcement of randomly generated correct responses—how could one randomly generate a correct response to an involved question about relativity unless one actually understood the theory? And, of course, understanding is an "inner" mental process. The so-called cognitive revolution in psychology was able to make headway on matters such as this, and interest in behaviorism gradually faded. Another serious blow to Skinner came in a review of his behaviorist theory of language acquisition, written by the linguist and philosopher Noam Chomsky in 1959. Chomsky showed, among other things, that there were linguistic phenomena (such as the ability of youngsters to understand statements that were formulated using grammatical constructions that they had never come across before) that could not be accounted for in terms of reinforcement of responses.

Gilbert Ryle's Behaviorism

Not all philosophers agree that it is accurate to regard Gilbert Ryle as a philosophical behaviorist, but undoubtedly many of the issues he discusses in his *The Concept of Mind* (1949) are strikingly similar to those tackled in a more philosophically simplistic way by Watson and Skinner. The opening chapter of his book contains a lucid description of what he variously called the "Official Doctrine," "Descartes' Myth," or "the dogma of the Ghost in the Machine" and which he argued is "absurd." According to this dogma, a person is made up of two different entities—a physical body and a nonphysical mind that exists in time but not in space (which is why it cannot be directly observed). Thus, the events that occur in this latter entity are "inner" and private and can only be accessed by introspection. Ryle (1949) holds that "this antithesis of outer and inner is of course meant to be construed as a metaphor, since minds, not being in space, could not be described as being spatially inside anything else" (p. 12). From this dualism of mind and body, there also arises the intractable problem of how the immaterial mind can interact with, and affect the

actions of, the material body. He goes on to argue, among other things, that the dogma of the Ghost in the Machine generates a vicious regress: Intelligent behavior is made what it is, according to this absurd account, because it is caused by prior decisions and commands issued by this "inner" Ghost; but the Ghost's decisions can themselves sometimes be intelligent and sometimes unintelligent—so the Ghost must itself harbor some "inner" entity that makes its decisions intelligent or not, and so on! According to Ryle's account, a behavior is not made intelligent or skilled by what occurred prior to it in some mental domain; the behavior is *itself* intelligent or skilled.

Despite the criticisms that have accumulated over the years, the influence of behaviorism lives on in behavior modification regimes used in institutions, such as prisons and some psychiatric institutions, and, of course, it is present whenever a teacher or a parent praises or otherwise rewards a child for an achievement.

D. C. Phillips

See also Chomsky, Noam; Cognitive Revolution and Information Processing Perspectives; Evolution and Educational Psychology; James, William; Popper, Karl; Teaching Machines: From Thorndike, Pressey, and Skinner to CAI; Transfer of Learning

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Bell Curve

The bell curve, also called the normal curve, is a graph shaped like a bell representing the symmetrical distribution of quantities around a midpoint when the median approximates the mean. The bell curve was originally designed to display binomial probability (coin toss) of infinite trials: the more times you flip a coin, the higher the probability that you will accumulate an equal number of heads and tails. However, the meaning of the bell curve has been radically transformed since its invention in the 1700s. Assumptions about bell-curve distributions have influenced epistemology, research protocols, and assumptions of normality in education. The bell curve has recently taken on more colloquial meanings (e.g., "grading on a curve"), and new debates have arisen since the publication of Richard Herrnstein and Charles Murray's (1994) *The Bell Curve*, which argued in terms of race that genetically heritable IQ (intelligence quotient) is the basis of socioeconomic inequality.

Throughout its history, the bell curve has functioned variously as a model of coin tossing, a means of reducing error in measurement, a model of a godly universe, fabrication of the Average Man, a depiction of patterns in population aggregates, a standard of normality in which average means ideal, and the assumed basis for racial discrimination. This entry examines both the history and current implications of the bell curve for educational theory and philosophy (Figure 1).

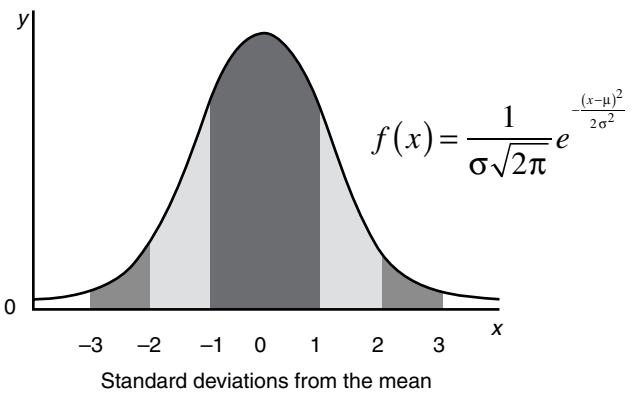

Figure 1 The Bell Curve Graph and Equation

History of the Bell Curve

The bell curve was invented to display binomial probability density and also as a mechanism for reducing error in astronomical measurements. From Abraham De Moivre's calculations in the early 1700s, the bell curve began as the "doctrine of chances." Early work on the bell curve contributed to Poisson's law of large numbers and influenced Maxwell's theory of kinetic gases. During the 1800s, the bell curve underwent several transformations before culminating in modern understanding as the assumed basis for normal distributions of empirical things in the social sciences.

Moral Statistics

Modern social sciences tend to treat the bell curve as if it were the product of empirical inference, a generalization derived from repeated measurements that consistently revealed bell-curve patterns of distribution. However, the history of the bell curve suggests otherwise. The bell curve was not discovered through empirical inference; it was posited a priori in the 1840s by Adolphe Quetelet, a Belgian statistician and astronomer. Quetelet believed that mathematical regularity was a sign of moral perfection. Extrapolating that a universe created by God would not be chaotic or asymmetrical, Quetelet supposed that empirical phenomena (including tides, births, and crimes) *must* be distributed in a bell curve, and it was the task of social scientists to create the statistical mechanisms that would make divine regularity apparent. He assumed that social phenomena would show the same regularity as celestial bodies. Quetelet began with a theological belief in the moral superiority of bell-curve distributions and superimposed the bell curve as the a priori model for data distribution in the empirical world.

Quetelet's reconceptualizations made it possible to export the bell curve from mathematics into social science. Social sciences then constructed quantification and statistical mechanisms that would tidy up numerical occurrences until they fit a bell-curve display. The modern 19th-century quest to establish grand narratives (explanations that were claimed to apply universally) provided a hospitable environment in which bell-curve thinking could flourish.

In sum, the bell curve does not exist in nature; it was imported from mathematics and superimposed on the social sciences as a theologically inspired organizational mechanism to make distributions in the empirical world appear as if they were mathematically regular.

Ideal Type

In the 1750s, the mathematician Thomas Simpson had used the bell curve as a means to reduce error in astronomical calculations: Multiple measurements of distances were averaged to approximate accuracy; outlying measurements were judged to be more erroneous the further they lay from the mean. In the 1840s, Quetelet imported this model of error reduction from astronomy into the social world. Remarkably, he reasoned that if taking the average of distance measurements would help us determine what was accurate in astronomy, then taking the average of human measurements could help us determine what was normal for a human being. Quetelet's statistical innovations created the concept of the Average Man (*l'homme moyen*), based on the assumption that the arithmetical mean of human characteristics is ideal or normal, and outlying features are indications of error or deviance. Quetelet also promoted the idea of "social physics," the belief that people en masse would behave according to the laws of physics. These innovations helped transform the bell curve from a representation of descriptive averages to a prescriptive ideal that has shaped modern beliefs about normality and abnormality.

Theoretical Implications of the Bell Curve

The bell curve forms the basis for much research design and social classification in education. In theory and philosophy, it is relevant to epistemology, normalization, and test design. The assumption of bell-curve distributions for investigating human qualities reflects and sustains beliefs in social inequality in which most people are perceived to be normal or average, while minorities are classified as exceptional or deviant.

Epistemology

Statistically speaking, there are two issues with bell-curve applications. First, the proper display of binomial probability distribution is a bar graph (which represents binomial variables), not a bell curve (which represents continuous variables). Second, the bell curve was originally constructed as a model for the distribution of *random* variables, not as a model of distribution for variables that are *not* random. Nineteenth-century critics rejected Quetelet's appropriation of the bell curve as a model

of the empirical world. Auguste Comte (founder of positivism) and John Stuart Mill observed that human life is affected by nonrandom variables such as heritage, volition, fortune, politics, and power; therefore, they argued, a bell curve is not an appropriate model for the social sciences.

The bell curve has helped establish conventional assumptions about what can be measured. If we want to produce a bell-curve distribution, we have to begin by identifying characteristics that display human diversity and then superimposing conventional dividing lines along continuums of difference (e.g., age, race, and gender) in order to demarcate discrete categories (just as we impose conventional dividing lines along the visible light spectrum to demarcate discrete colors). For example, many statistics textbooks use the example of height to illustrate normal distribution. However, height is not normally distributed in the general population; height is affected by nonrandom variables such as age, genetics, nutrition, and socioeconomic conditions. Measurements of height will display a bell-curve distribution only after we have first created particular discrete categories and then selected some categories, such as age and race, and dismissed others, such as class and blood type. Age-specific nutritional deprivation and adolescent growth spurt both affect height; however, nutritional deprivation and growth spurts have not generally been included as salient factors in height statistics because their inclusion would render a skewed curve instead of a bell curve (see A'Hearn, Perracchi, & Vecchi, 2009). In most social sciences, the bell curve comes first, and it then determines what is important to measure and what is not important. By these mechanisms, the bell curve influences assumptions about what counts as empirical.

In educational theory and philosophy, the key epistemological question is whether the bell curve should be regarded only as a display of probability functions for random continuous variables, or if it should also be used as a model of distribution for measurable things in the world.

What Counts as Normal

For much social science research, the bell curve underwrites definitions of normal in standards of measurement and research design. Quetelet's quantities were transformed in the 1800s to fabricate the Average Man; similarly, the bell curve has made it possible to fabricate the Average Student as the normal standard for designing curricular materials, assessments, and "best practices" in education. By determining what can be measured in empirical studies, the bell curve helps uphold conventions for classification and assessment. These conventions then serve as a precondition for defining average as normal and rarity as deviant. In education, this stance is reflected in the terms *normal distribution* and *exceptional children*.

Bell-curve thinking in education creates a tension between average as normal and average as mediocre. Average behavior is sometimes valued (as normal) and sometimes devalued (as second rate); exceptional behavior is sometimes valued (as excellence) and sometimes devalued (as abnormal). Bell-curve thinking defines normal as frequent and abnormal as rarity. However, non-bell-curve thinking makes it possible to define normal and abnormal according to ethical (or utilitarian, or political) criteria rather than according to frequency distributions.

Test Design and Discrimination

A random collection of test questions would not yield a bell-curve distribution of results; test items must first be carefully revised and strategically combined before results will yield a bell curve. In the process of developing tests, questions are first piloted to determine whether the tests measure what they are expected to measure. Ultimately founded on Quetelet's theological belief that empirical things of the world should be distributed in a bell curve, standardized test questions are considered to be valid when results produce a bell-curve distribution and a robust discrimination index (the level of precision in ranking made possible by a test item). New tests must be "normed," which means the test items are repeatedly revised until new tests reproduce the same bell-curve distribution that was established by previous versions of the test.

The bell curve is also a necessary component of IQ testing. Between 1908 and 1911, the French psychologists Alfred Binet and Theodore Simon invented a battery of tests called the Binet-Simon scale. In 1916, Lewis Terman published the Stanford Revision, which was based on a purposeful sample of 981 middle-class White nine-year-olds in California. Stanford researchers made several fundamental changes to the original Binet-Simon scale, one of which was to assume a bell curve as the basis for validating the test questions; by definition, half of all IQ test takers are assigned scores below 100, and half are assigned scores above 100.

The Stanford-Binet test also expressed IQ as a single number (which contravened Binet's earlier directives) and attributed IQ to inheritance rather than environment.

In their 1994 book *The Bell Curve,* Herrnstein and Murray maintained the Stanford assumption that intelligence is heritable. They also argued that variations in IQ scores among racial groups are evidence of genetic differences in cognitive ability and that differences in IQ cause social and economic inequality. Therefore, they argued, public policy should be based on an acceptance of a cognitive elite. The main arguments against Herrnstein and Murray's claims are that intelligence is not immutable, intelligence is not a single "g factor," the analysis confounds correlation with causation, and the premises are fundamentally racist.

The history of the bell curve suggests that the main purpose of IQ testing has been not to measure human characteristics but rather to establish social stratifications. Such stratifications are made possible because of the fallacious belief that the bell curve exists in nature.

Lynn Fendler

See also Abilities, Measurement of; High-Stakes Testing; Intelligence: History and Controversies; Probability and Significance Testing; Social Darwinism

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BILDUNG

The philosopher Wilhelm von Humboldt (1767–1836) used what originally was the pietistic and theological term *Bildung* to refer to the humanistic ideal of self-cultivation and self-transformation. It is likely that he borrowed the term *Bildung* from the biologist Johann Friedrich Blumenbach (1752–1840), who claimed that all organisms possess a so-called *Bildungstrieb* ("drive of development"). *Bildungstrieb* refers to a force inherent in organisms—including humans—that has an implicit goal toward self-realization and self-perfection (*Vervollkommnung*). Such a biological view was most probably much more influential on Humboldt's thinking than the mystic or pietistic origins of the term. This entry reviews the evolution of this educationally important concept, from its initial elaboration in the era of the Enlightenment through successive phases of its development to its recent encounter with postmodern and poststructuralist currents in educational discourse.

Historical Background

It should be stressed at the outset that Bildung is not exclusively a German concept, as is sometimes stated in educational discourse. Rather, the topic of the educated mind is a central one in most educational theories and philosophies in various cultures, languages, and epochs. The idea of Bildung understood as human development and an end in itself can also be found in the Anglo-Saxon tradition of liberal education—but there are, of course, important differences with regard to the details.

Nevertheless, the German literature has been prolific; in it, the concept of Bildung refers to "the inner development of the individual, a process of fulfillment through education and knowledge, in effect a secular search for perfection, representing progress and refinement both in knowledge and in moral terms, an amalgam of wisdom and self-realization," (pp. 53–54) as Peter Watson (2010) tried to define it for an English-speaking community. German thinkers—for instance, Moses Mendelssohn and Johann Gottfried von Herder—identified Bildung with the Enlightenment, a view that might not be

obvious. It is important here to remember that the German Enlightenment (*Aufklärung*) came later in history than the French, English, and Scottish Enlightenments. The German *Aufklärer*—"men of Enlightenment"—could borrow from their neighbors and their achievements.

Whereas the idea of societal change was widely accepted in late-17th-century and early-18th-century Europe, the German Enlightenment specifically focused on the direction, logic, and meaningfulness of change. German intellectuals were fascinated by the French Revolution at first but later were disgusted by the postrevolutionary terror. To them, this was a remarkable backlash to the hope of political progress and freedom. In the early Western Enlightenment period, freedom was understood as an outward, definitely political concept; in the later German Enlightenment, in contrast, the predominant understanding of freedom was characterized by a rather aesthetic dimension: not outward but internal freedom. This shift from a political understanding of the Enlightenment—as in France, and also England or Scotland—to the German inwardness (*Innerlichkeit*), as realized in the concept of Bildung, can at least to a certain degree be interpreted as the desire of German intellectuals to escape from a brutal and on the whole disappointing postrevolutionary world to a place where humankind could seek secular perfection. It is not surprising, then, that today the notion of humanist Bildung is critically discussed not only as an aesthetic escape from a world in which political and juridical issues are urgent (an intellectualized refusal to adopt a political attitude toward the world) but also as a *secularized theology.*

The Notion of Bildung

Today's educational discourse in the German-speaking countries distinguishes between Bildung ("the acquisition and/or possession of formal, most of all academic, knowledge") and *Erziehung* ("upbringing and character development"). On the other hand, professional and academic development and support (training or vocational education) are usually called *Ausbildung* (see Winch & Gingell, 2008, p. 25). Whereas Erziehung is understood as intersubjective interaction and as a process of intentional influencing, the *traditional* concept of Bildung means self-formation or self-cultivation, and it is sometimes also understood as self-upbringing, that is, it refers to inner-subjective or subjectivating processes (see Schneider, 2012). The notion involves a reversal of the usual way of understanding oneself and the world; but in this context, the resistance of the world (or of experience) against this self-developmental process is—according to von Humboldt—considered to be highly significant (see Dörpinghaus et al., 2006, p. 71).

Bildung is considered to have an objective as well as a subjective dimension. The former refers to "culture" as a philosophical, scientific, aesthetic, or moral interpretation of the world, either referred to as *Allgemeine Menschenbildung* ("general human education") or as *Allgemeinbildung* ("broad educational experience"). The latter refers to the specific ways individuals acquire the objective content of culture. Indeed, it might be said that what groups of humans perceive as culture (whether ethnicity, national identity, community, etc.) is Bildung at the level of the individual. Jürgen-Eckhardt Pleines (1971/1989a) suggested a systematization of the educational meaning of the concept of Bildung that is still convincing today, knowing full well that a "premature determination of its meaning or a structural reduction of its original meaning will result in its decline and thus in the leveling of its originally intended contents" (p. 12). Pleines refers to Bildung (1) "as a valuable commodity which must be strived for," (2) "as a state of mind," (3) "as a process of mind," (4) "as a permanent task," (5) "as human's self-fulfilment in freedom," and, finally, as pointing to (6) the "educated ('*gebildet*') person and his/her Bildung of reason and heart" (pp. 12–38).

Recent Attempts at Reformulation

Since the mid-20th century, in the course of the broad establishment of the social sciences in the educational discourse, there have been efforts to replace the concept of Bildung by concepts such as deculturation, socialization, ego identity, development, and qualification. Thus, the concept of Bildung went through periods of trivialization and sometimes complete transformation. The ambiguity and vulnerability of the (original) concept of Bildung have nevertheless not resulted in the idea of Bildung being replaced satisfactorily by the surrogates that have been suggested. For instance, Hansmann (1988) demonstrated convincingly how each of the claimed theoretical equivalents, such as scientific orientation, socialization, qualification, Erziehung ("upbringing"), or teaching, fail to go into sufficient depth.

Insightfully, Friedrich Schweitzer (1988) also argued against equating (ego) identity and Bildung.

It must not be overlooked, here, that the term can be defined only in what has sometimes been called a cumbersome way, possibly "because the idea of Bildung is an essentially social idea, thus having different meanings according to the various customs and interpretations" (Musolff, 1989, p. 9). Thus, following H. Posner (1988), it might have to be accepted that "Bildung, one of the crucial terms of philosophical anthropology and education . . . [is] at the same time one of the most blurred ones" (p. 23). Wolfgang Brezinka (1972) went even further and called the term "almost empty" (p. 62).

In the 1980s, after having gone through something of a crisis, Bildung experienced a renewed boom, maybe precisely because of the social challenges the educational sciences were actually confronted with in those days and which have escalated since. The revitalization of the concept of Bildung as a result of the changes triggered by an "ever more radicalizing modernity" does not mean that its history can be left behind. This is not the place to speculate about the reasons for this revisitation and for why the concept is discussed even by political authorities (see Posner, 1988). It may simply be stated that the concept of Bildung has both experienced a renewal of significance and become even more difficult to grasp.

An essential aspect of Bildung is the idea, explicitly or implicitly shared by the various ways of understanding it, that it is a mediator between the "unity of the individual" and the "totality of the world" (Posner, 1988, p. 26). One may imagine this mediation as a process, a state, or a goal. The ideals of educational objectives (responsibility, independence, self-determination, reasonable practice, etc.) thus provide the concept of Bildung with its "typical dignity" and make it a regulative idea of general education and educational theory—"a place of normative understanding within it" (Miller-Kipp, 1992, pp. 18–19). In whichever way the term is used, the point remains that the actual referent of the concept of Bildung is the subject as a self-educating individual or an individual undergoing education. Thus, educational theory cannot avoid questions concerning the constitution of the subject—not only in the philosophical but also in the psychological and sociological sense.

Whereas Bildung as self-cultivation and an end in itself is certainly not a constitutive idea of the (empirical) description of education and educational processes, the question remains whether it still has the power (or should have the power) to function as a regulative idea in modern societies. The latter are strongly affected by instrumentalist and pragmatist worldviews that provide seemingly convincing tools to approach practical problems and decision-making processes, especially in the domain of education. Nevertheless, it is the very lack of humanistic regulative ideas in educational discourse that seems to be the source of the widespread feelings of malaise and even crisis in modern education. As economic rationality continues to colonize the *Lebenswelt*, or lifeworld, the humanistic and modern project of moral betterment, both of the individual and of humankind, is at stake. For more than 20 years, there have been attempts to radically question the concept of Bildung from a poststructuralist and postmodern point of view, but there have also been—and will continue to be—attempts to transform it (see Masschelein & Ricken, 2003).

Roland Reichenbach

See also Dewey, John; Education, Concept of; Liberal Education: Overview

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Bilingual Education

Bilingual education can be broadly defined as a program that employs more than one language as the medium of instruction for the curriculum. It may be distinguished from foreign-language or second-language education, in which proficiency in the language is the goal and the curriculum is organized around the attainment of various levels of proficiency in the foreign or second language rather than in the content areas across the curriculum (e.g., math, science, and literacy).

The rationale for delivering instruction bilingually can vary significantly and depends on a wide variety of social, political, and historical circumstances related to the status of the language and its speakers. During periods of ethno-linguistic pride asserted by language minority groups, bilingual education may serve as a symbolic point for the linguistic rights of minorities. During periods of heightened interest in foreign economic competitiveness or a heightened sense of national security, bilingual education may become an instrumental means for students to develop high levels of proficiency otherwise unattainable through traditional foreign-language programs. In societies where bilingualism (or multilingualism) is official, such as in Canada or Switzerland, bilingual education may become an instrument through which the recognition of the languages is politically negotiated between the officially recognized ethno-linguistic groups.

Typically, immigrant languages have less prestige, and during times of linguistic nationalism, the recognition of nonmajority languages through bilingual education becomes an object of symbolic politics. The English-only movement in the United States, for example, has seen bilingualism in any form—bilingual education, bilingual ballots, bilingual social services—as incompatible with the unifying forces of an official language, and the movement has used the label "bilingual" as an instrument of wedge politics. Indigenous languages may carry the weight of incumbency in the territory, but the act of recognizing indigenous languages is complicated by the history of invasion and occupation by the majority language, making it different from the recognition of immigrant languages.

In the United States, bilingual education often serves as a transitional program in which the native language of the immigrant or language minority group is used as a crutch while students are given time to learn English. These programs, however, do not support development in the native language once the students have learned enough English to survive in the monolingual environment. An alternative approach is one that values the native language and attempts to maintain it. Maintenance bilingual programs continue to develop literacy in the native language, and in the case of dual-immersion programs, native speakers of English whose parents value, and wish their children to learn, the language

of the immigrant community participate, so that the bilingualism is developed in both directions.

The effectiveness of bilingual education programs is difficult to evaluate because the educational goals vary significantly—for example, proficiency in the two languages may be a key goal of some programs, but others, such as the French immersion programs in Canada, are keenly concerned about demonstrating that the Anglophone students participating in these programs are not losing ground in their academic achievement as measured in English. Others, such as bilingual programs in the United States, are mainly concerned with equitable attainment of academic achievement by nonnative speakers of English compared with monolingual English speakers, as measured through English tests. In general, it is safe to conclude that well-implemented bilingual education programs attain their specific objectives but that the outcomes vary considerably depending on the background characteristics of the students who enroll in these programs. Favorable outcomes are more often found among middle- and upper-class students.

Guest-worker programs, such as bilingual programs for the children of Turkish workers in Germany, provide an additional angle on bilingual education. In these programs, the ultimate motive for supporting the home language is to enable a smoother return to the home country for the students and their families. The concern is the rapid shift that might otherwise occur even among the guest-worker communities, where the dominant language becomes the language of the host country.

Second-Language Acquisition and Instruction

The nature of language is central in how second-language acquisition is supported in bilingual education programs through the curriculum, the instruction, and the training of teachers. Linguists analyze language in terms of its phonological, morphological, syntactic, semantic, pragmatic, and sociolinguistic properties. Second-language acquisition seen as developing knowledge of a set of rules (e.g., how past tense is marked) or developing a set of educational practices (e.g., constructing an explanation) will result in vastly different curricular arrangements and expectations for teacher knowledge about language.

A related issue is how explicitly various aspects of language need to be addressed in the curriculum. A question that concerns practitioners is whether or not to dedicate specific time in the curriculum to the various analytic aspects of language or whether these aspects of language can develop naturally and incidentally in the course of academic content instruction—for example, learning the language during math and science instruction.

Sources of Variation in Second-Language Acquisition

Researchers in the development of bilingualism have investigated a number of hypotheses about individual variability in the outcomes of second-language acquisition. These include the age of the learner, socioeconomic background, language status, learner personality, and learner motivation.

The most discussed is the age of the learner. In its boldest form, this can be stated as a hypothesis about a biologically founded critical period for second-language acquisition. This hypothesis would imply that before a certain age (often somewhere between the ages of 5 and 15), the second language is learned quickly and automatically, using mechanisms similar to what was available for learning the first language. After the critical period, learning can only be achieved through alternative mechanisms. Although appealing, this hypothesis finds little support. The most carefully conducted research shows an age-related decline throughout the life span and no documentation of dramatic differences between those before or after a proposed critical period.

Socioeconomic background, including the home literacy levels of the students, provides another important source of differences between students. Programs that appeal to middle-class students show stronger outcomes than those for lower-class students, and even within programs, student home background is a strong predictor of ultimate learning among the students. These data track the general findings of educational outcomes related to social class.

Individual psychological factors such as personality, motivation, and social psychological variables have been investigated extensively within foreign-language programs, but less so within bilingual education programs, with the exception of Canadian bilingual programs, where they have shown predictive power in student learning outcomes.

Benefits of Bilingualism

An aspect of bilingualism often overlooked by educators is the potential benefits of bilingualism on

some specific aspects of cognition, including metalinguistic awareness, attentional control, and executive function. Bilingual children show advantages on a variety of tests of psychological functioning in these areas over comparable monolingual children. In addition, there is emerging evidence from hospital records for the substantial delay of onset of dementia for bilinguals. Thus, in addition to the direct linguistic and educational benefits of bilingual education, there is emerging evidence of the long-term health benefits of bilingualism. Although the research is still far from pointing to specific educational interventions that might result in bilingualism, it suggests that the field of bilingual education has prospects that extend well beyond a compensatory framework of bilingualism to a far-reaching vision embracing people's longevity and mental acuity.

Kenji Hakuta

See also Equality of Educational Opportunity; Immigrants, Education of; Language Acquisition, Theories of

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Bourdieu, Pierre

See Reproduction Theories

Bruner, Jerome

The psychologist, philosopher, and pragmatist Jerome Bruner (b. 1915) has borne witness to the wide-ranging and wild enthusiasms of the field of psychology—behaviorist, cognitivist, cultural, developmental—for more than 65 years. Repeatedly, he has played important roles in authoring and critiquing his field (including his own earlier work), fearless in his embrace of the complexity of the human condition and vigilant in considering how social science can shape and be shaped by important social issues. His research included work on how people process information and on the early development of spoken language. This entry discusses the breadth of Bruner's research, his political involvement in education, and his influence on psychology and education.

Born in New York City, with degrees from both Duke University (BA, 1937, Psychology) and Harvard University (MA, 1939; PhD, 1941, Psychology), Bruner has held positions at Harvard, Oxford, the New School of Social Research, and New York University. His oeuvre includes 20 books on topics ranging from cognition and learning, to knowing and meaning, to narrative and language, to education and law. *The Process of Education* (1963), his summary of a summit meeting of leading scientists and social scientists drawn together to respond to the "missile gap" crisis in the wake of Russia's launch of Sputnik, the world's first artificial satellite, has been translated into 21 languages. Drawing widely on disciplinary tools from anthropology, psychology, linguistics, and literary theory, and consistently embedding himself within interdisciplinary communities, Bruner has always exhibited an *esprit de finesse*—the ability to hold together a number of elements in nice balance—understanding that an infinite range of factors, known and unknown, shape the human condition (Geertz, 1997).

Bruner started his career at Harvard with a study of the "helplessness" of imprisoned rats. He quickly became part of the generation of psychologists in the 1950s who brought the mind back into the discipline "after a long cold winter of objectivism" (Bruner, 1990, p. 1). Rejecting studies of stimuli and responses, Bruner and his colleagues were taken with understanding how people reason, feel, imagine, and know. As cognitive studies—a field he helped create—grew, Bruner became a strong critic of how cognitive "science" had—ironically enough—dehumanized the mind, virtually estranging psychology from the arts and humanities.

In response, Bruner eventually helped lead a "cultural" revolution within psychology, drawing heavily on anthropology and arguing that the mind is not "programmable" but rather is a social and historical achievement. In his own research, Bruner sought to understand how language develops (especially among the young) and how cultures shape the

mind. Central to this has been his work on narrative and how cultures and individuals use stories to shape their own and others' lives. Bruner has been honored with 25 honorary degrees, a Festshrift (Olson, 1980), a volume of essays on his philosophy (Bakhurst & Shanker, 2001), and the International Balzan Prize (in 1987); he is a fellow of the American Academy of Arts and Sciences.

Major Themes

In the 1950s, Bruner was one of several early leaders of psychology's cognitive revolution. Instead of focusing on stimulus and response, and operant and classical conditioning, Bruner and his colleagues—Ulric Neisser, Donald Broadbent, George A. Miller, and Noam Chomsky among them—sought to describe how humans made meaning from their encounters with the world. Based on earlier empirical work that he had done on children's perceptions, Bruner supported a "New Look" psychology that focused on humans' interpretations of events and objects, rather than simply documenting their observed responses to stimuli. In *A Study in Thinking* (Bruner, Goodnow, & Austin, 1956), Bruner and his colleagues reported on a series of groundbreaking studies on human concept formation and inductive reasoning, and the work is considered a classic in the so-called cognitive turn in psychology. Shortly afterward, Bruner and Miller founded Harvard's Center of Cognitive Studies, which became a leading think tank for interdisciplinary teams of anthropologists, linguists, historians, philosophers, and psychologists who were documenting how humans make meaning.

By his own account, Bruner's (2006a) interest in education arose in the 1950s as he witnessed the "desperate ideological struggles" of the time. When Sputnik was launched, concerns about science education rose, with U.S. policymakers arguing that the "missile gap" between the Soviet Union and the United States was a national, political, and intellectual threat. The National Science Foundation responded, supporting numerous curriculum development projects that involved research scientists and mathematics around the country. Bruner, who had been pulled into helping Jerrold Zacharias at MIT (Massachusetts Institute of Technology) with his Physical Science Study Committee work, was invited to cochair (with Zacharias) a meeting convened at Woods Hole, Massachusetts, in which the investigators on these projects deliberated about curriculum, the role of cognitive psychology in education, and the future of mathematics and science education. This led to one of Bruner's most important works, *The Process of Learning*, and later to his work on the development of the controversial social studies curriculum, *Man: A Course of Study* (MACOS). MACOS, which was based on Bruner's idea of a "spiral" curriculum, was a humanities program meant to teach students about the life spans of living things—from salmon to reindeer to humans. The curriculum was designed to provoke students to ask questions, including questions about morality. Fundamentalist groups, in particular, raised rancorous objections, as documented in the film *Through These Eyes* (2004). Not one to shy away from controversy, Bruner became increasingly aware of the political currents that swirl around educational initiatives. His baptism by fire through MACOS appears to have only deepened his commitment to proactively engage in the politics of education: Throughout the 1960s, he served as a member of the Educational Panel of the President's Science Advisory Committee to both Presidents Kennedy and Johnson.

Bruner's interests in cognition and meaning making then led him to investigate the conditions for the early development of spoken language. His research convinced him that young children are powerfully proactive in their own learning and capable of developing conceptual powers at a young age. That work also taught him the damaging effects of poverty on early mental development. As a consequence, he was among the social scientists who argued for what became the Head Start program. While his own work led him to chafe at the "deprivation" theory that animated some of the federal Head Start work, Bruner was vehement in his conviction that poverty was the enemy of young children's minds.

In the 1970s, Bruner continued this empirical, theoretical, and political work in Great Britain, where he taught at Oxford and teamed up with colleagues, including Harry Judge, to work in the Preschool Research Group and later with the Preschool Playgroup Association. Here too, social scientists and humanists investigated young children, language, and development and worked to persuade the then minister of education, Margaret Thatcher, of the critical role of preschools in young children's development. As had been the case in the United States, while at Oxford, Bruner swam in the broader intellectual currents of the time, most notably the linguistic turn in Oxford philosophy, which led him to reconsider how communicative intentions

shape language use and structure. The combination of theoretical and empirical work shed new light for Bruner on how cultures shape the mental development of their members, including children. This work eventually led to the "cultural" revolution in psychology, a shift that pressed for a conception of the self that acknowledged how our selves are not "isolated nuclei of consciousness" but instead are constructed by society and history (Bruner, 1990).

On returning to the United States in the 1980s, Bruner moved back to New York City, where he joined the faculty of the New School for Social Research and later the faculty at New York University, where he is currently a member of both the Department of Psychology and the School of Law. Drawing again from broader intellectual currents, he then used the writing of authors like Julian Barnes, Milan Kundera, and Jacques Derrida to consider the role of narrative in meaning making. Bruner (1996) became convinced that human beings "live in a sea of stories" (p. 147), most often authored by the cultures in which we live. His recent work (e.g., Bruner, 2003) explores how we learn through the stories we tell and are told.

A restless thinker, play has always been an important theme in Bruner's work. He saw play as a way to tap into our cognitive powers and rethink possibility. This playfulness has led him to ignore boundaries—between conceptual and empirical work and between disciplines and fields of study. He has been, at once, an intellectual—trying on ideas from across fields, ever vigilant about the limitations any scholar faces in explaining something as complex as the mind and how one constructs meaning or learns—and an activist/teacher, whether proposing theories of instruction, creating curricula, or arguing for programs like Head Start. And the stories Bruner has told us—about the mind, about children, about teaching and learning, about narrative and culture—have shaped contemporary psychology and education in profound ways.

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See also Cognitive Revolution and Information Processing Perspectives; Knowledge, Structure of: From Aristotle to Bruner and Hirst; Narrative Research

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Buber, Martin

Martin Buber (1878–1965) was a prominent 20th-century philosopher, Jewish religious thinker, and cultural Zionist whose well-known distinction between I–Thou and I–It relations formed the basis for a unique philosophy of education, with distinctive conceptions of learning for meaning, teacher–student relations, and the role of education in the cultivation of community. In addition to its impact on Jewish thought and education in Israel and abroad, Buber's philosophy of dialogue exercised considerable influence on Nel Noddings's (1984) ethics of care, Emmanuel Levinas's (1998) ethics of responsibility, and the work of Protestant theologians such as Paul Tillich (1948, 1952).

Born in Vienna in 1878, Buber was raised by his paternal grandparents in Lemberg (Lvov). His grandfather, Solomon Buber, was an important Jewish communal leader and scholar who edited the first critical edition of the traditional rabbinic biblical commentaries. Martin was educated in Vienna, Leipzig, Zurich, and Berlin, after which he was appointed the first lecturer in Jewish Religious Philosophy and Ethics at the University of Frankfurt, where he taught until 1935, when he accepted a chair in Social Thought at the Hebrew University of Jerusalem. He is best known for his 1923 classic

I and Thou (*Ich und Du*) and a series of influential works on the philosophy of dialogue, but he also published extensively on the Hebrew Bible, which he translated into German with his colleague Franz Rosenzweig, and the modern Jewish mystical sect known as Hasidism, from which he drew inspiration for his dialogical thought. Buber died in Jerusalem in 1965.

According to Buber (1970), life's meaning and purpose are discovered in moments of I–Thou, or subject–subject, relation—in which one receives another into oneself for the sake of meeting as an end unto itself—but they are implemented through I–It, or subject–object, relations—which are maintained for utilitarian purposes. Whereas subject–subject relations cannot be contained within rules or formulas, subject–object relations are so constrained. Indeed, any attempt to express the pure encounter of an "I" with a "Thou" in rituals or laws already transforms the meeting into an instrumental relation. God, in Buber's view, is uniquely and "eternally Thou," to be glimpsed in the meeting of one subject with another. Encounters of this kind transpire not only between people but also between people and texts, objects, natural settings, musical pieces, and artistic creations.

The Hebrew Bible, the prophetic tradition in particular, records just such an encounter between God and the people of Israel, and the mystical tradition in Judaism represented by Hasidism constitutes an especially authentic representation of the divine–human encounter (Buber, 1958). In contrast to many orthodox interpretations of Jewish tradition, Buber held an antinomian view of religion believed to share much in common with Protestant Christianity, especially as interpreted by the likes of the existentialist theologian Paul Tillich (1952). Buber (2003) held, however, that the Hebrew Bible grounds faith in mutual trust between God and human beings whereas Christianity places greater emphasis on specific beliefs about God, that He exists, for example, or took a human form as Jesus of Nazareth, who suffered and sacrificed Himself to redeem humankind from sin.

Buber (1963) translated his religious existentialism into a utopian political theory called Hebrew humanism, tied closely to his Zionist convictions. In this view, the return of the Jewish people to the land of Israel offers a unique opportunity to reinvent the sort of political community envisaged by the Hebrew Bible, grounded in the qualities of dialogue and mutuality that he saw in Hasidism. The kibbutz movement of collective farming villages, which mixed socialism with a drive to connect physically to the land of Israel, is a good example of such a utopian community. Similarly, he envisaged the State of Israel as a binational state in which Jews and Arabs would live in peaceful coexistence grounded in mutual respect and dialogue (Buber, 1983).

Buber (2002) also made important contributions to educational thought. In his inaugural lecture at the opening of the Lehrhaus Judaica in Frankfurt in 1920, Buber extended his distinction between subject–subject and subject–object relations to the curriculum by distinguishing between *Lehrnen* and *Lehrnstat*. The former engages matter to be studied as a subject for encounter, to be incorporated into one's being as a source of value and direction, while the latter formalized information as an object, for the purpose of the discovery or construction of knowledge. Instruction in modern schools and universities has tended to emphasize the latter; the Lehrhaus, which he launched with Franz Rosenzweig as an updated rabbinic house of study, would cultivate the former (Rosenzweig, 2002). This subject–subject pedagogy requires a distinctive relation between teachers and students grounded in dialogue. However, as Nel Noddings (1984) would later emphasize in her "ethic of care," teacher–student dialogue is not completely mutual; the teacher gently guides the student in ways that need not be reciprocated, confirming his or her more elevated qualities along the way. An education grounded in *Lehrnen*, in which teachers confirm the ability of their students to develop into unique people in their own right, is essential to the sort of utopian community that Buber envisaged.

Buber's Jewish and philosophical positions were criticized on a number of grounds. Gershom Scholem (1937), who founded the academic study of Jewish mysticism, argued that Buber overly romanticized Hasidism and underestimated the power of divine commandment in Jewish mysticism. The Modern Orthodox theologian Elieser Berkovits (1962) extended this critique to Buber's antinomian account of religious law altogether, and Walter Kaufman (1983), who translated *I and Thou* into English, similarly suggested that Buber's conception of relation mistook "deep emotional stirrings for revelation." Franz Rosenzweig (2002) asked why it is impossible to encounter religious practices in dialogue, since Buber held that we can meet texts, nature, music, and art in this way. Surely, Rosenzweig reasoned, we should be able to transform objective

laws (*Gesetz*), which derive their extrinsic authority from the divine, into subjective commandments (*Gebot*), in which the call to observe is heard intrinsically, from within. Finally, the phenomenologist Emmanuel Levinas (1969, 1998) challenged the role of mutuality in Buber's conception of dialogue, arguing that in relation one has an absolute obligation to accept responsibility for the other regardless of whether or not this attitude is reciprocated by the other toward oneself.

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See also Noddings, Nel; Phenomenology; Religious Education and Spirituality; Utopias

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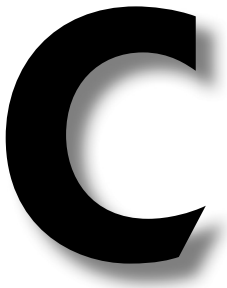
BUDDHISM

See Indian Religious and Philosophical Traditions and Education



Capability Approach: Martha Nussbaum and Amartya Sen

The capability approach (also known as the capabilities approach) is a theoretical and normative framework concerned with well-being, the just design of institutional and social arrangements, poverty, and human development. The approach was originally pioneered within political philosophy and welfare economics by Nobel laureate Amartya Sen and was further developed by the philosopher Martha Nussbaum and, more recently, by many other scholars.

During the past three decades, the capability approach has influenced a wide range of academic research, including philosophical theories of social justice and the domains of social policy and development studies, as well as the work of international agencies, for example, the United Nations Development Programs and Reports. The approach has also increasingly informed studies in education with a particular focus on questions of educational justice, disability and special-educational needs, gender, and access to higher education. The reach of the capability approach is therefore broad and interdisciplinary and covers both theoretical and practical domains of inquiry.

As a theoretical and normative account, rather than a full-fledged theory, the approach provides a conceptual framework for defining the individual's well-being and a normative position on how just social and institutional arrangements *ought to be* designed. More specifically, the approach contends that well-being should be conceptualized in terms of individuals' capabilities to achieve valued functionings and thus to lead the kind of life they value. Functionings consist of all the beings and doings that people have reason to value, or, in other words, they are states and actions that make one's life valuable. Functionings are countless, from simple ones, such as being rested, being happy, or being thirsty, or reading, listening to music, or cooking, to more complex ones, such as being a foster parent, participating in the life of the community, or working as a librarian. Capability refers to the real, effective opportunities that people have to choose among valued functionings; hence, they are the real freedoms to be and to do what one chooses and values. The normative core of the capability approach is that individual well-being, as well as social arrangements and policies, should be evaluated in terms of capability, thus in terms of the effective freedoms and opportunities to choose among valuable kinds of lives.

While capability and functionings are the core concepts of the approach, Sen and Nussbaum have developed different versions of the framework. Whereas Sen has primarily focused attention on questions of justice, freedom, and poverty, Nussbaum has given the approach a universal scope by specifying a list of central human capabilities that, in her view, characterize what makes a life truly human. These differences are worth exploring in more detail.

Sen's Approach

Sen originally devised the capability approach as an innovative account of well-being, both for welfare

assessment and for theories of justice. He proposes the approach as an alternative, on the one hand, to the utilitarian view that defines well-being in terms of utilities, or preference satisfaction, and on the other, to John Rawls's position on justice as fairness, which evaluates individuals' relative advantage by assessing their holdings of social primary goods, that is, resources such as income and wealth. According to Sen, rather than concentrating on subjective states such as satisfaction or on the resources that people have at their disposal, any account of justice should focus on what people can be and can do with their resources to achieve well-being. In his view, well-being lies in the real freedoms, the effective capability that people have to achieve chosen functionings; and, therefore, just institutions should seek to equalize people's capability, or their effective opportunities to lead valuable lives. Sen further specifies some basic capabilities that are essential to well-being, such as being nourished and sheltered, being educated and healthy, and appearing in public without shame.

In Sen's view, the lack of the relevant basic capability determines disadvantage and inequality, and poverty is therefore seen as a failure of capability. Thus, while fasting is a valued and chosen functioning for some and may lead to well-being, starving is the absence of the relevant capability—that is of the relevant freedom to achieve the relevant functioning, in this case being nourished.

In addition to the centrality of capability for justice, Sen also introduces a very important element in the evaluation of individuals' relative positions: the concept of human diversity. Sen maintains that differences such as personal, physical characteristics and climatic and environmental factors, as well as cultural and social elements, should all be accounted for when evaluating relative disadvantage. These constitutive features of human diversity, in Sen's view, lead to a different conversion factor of resources into well-being, and as such, they should be included in the evaluative process. A conversion factor is the degree to which a person can transform a resource into a functioning. These factors can be personal, social, or environmental. For example, to function adequately in her environment, a pregnant woman living in a cold climate will require a different amount of food from the amount required by a nonpregnant woman living in the same environment, other things being equal. Her pregnancy, the environment, and specific policies providing nutritional supplements are factors that affect the extent to which a diet high in nutritional value will contribute to her well-being.

Despite his attention to questions of justice, Sen has not further specified what capabilities should be promoted through the design of social and institutional arrangements. He maintains that any list of specific capabilities must be the result of a democratic process of deliberation involving all the relevant parties, that is, all those who will be affected by the decision. In this sense, Sen's version of the capability approach is intentionally unspecified.

Nussbaum's Approach

Nussbaum's capabilities approach has provided a different, and to some extent more specified, version of the framework. Nussbaum endorses the concept of capability as the variable for comparisons of well-being and freedom, but she identifies a list of 10 central human capabilities, which governments should secure to all individuals up to a certain threshold level of adequacy as a constitutional guarantee. These capabilities include life (including the ability to live a life of normal length); bodily health; bodily integrity (the ability to change locations and to have sovereignty over one's body, including not being vulnerable to assault); the ability to use one's senses, imagination, and thought; emotions, including attachments to things outside ourselves; practical reason (the ability to form and revise a conception of the good and a life plan); affiliation (the ability to form and engage in meaningful relationships); the ability to play; the ability to have concern for other species; and control over one's material and political environment.

The capabilities of practical reason and affiliation are accorded primacy as they support and allow the development and exercise of all the other capabilities. Moreover, Nussbaum specifies her central capabilities as "combined capabilities" that result from the combination of internal capabilities with suitable external conditions for the exercise of functionings. Internal capabilities are developed powers of the person, such as the capability to speak or to form a political opinion. These internal powers can only become functionings when the external conditions are favorable to their enactments. For example, a person may have the capability of forming and expressing an opinion but might be prevented from exercising it by oppressive regimes.

Nussbaum contends that her central human capabilities have a universal dimension. She maintains

that each capability in the list expresses a fundamental aspect of a life lived with the dignity of a human being and, as such, her list can be recognized as essential for well-being by people who otherwise endorse very different conceptions of the good. She further contends that her list can therefore be considered the product of a political process of overlapping consensus. Nussbaum does not provide any further articulation of her claim, but she insists that her list of central capabilities provides the basis for an adequate social minimum that governments have to deliver as a matter of justice to all individuals. In other words, government should secure the achievement of a threshold level of functionings for each capability. In her more recent work, Nussbaum has extended her analysis to questions of justice concerning people with disabilities, justice for nonhuman animals, and global justice. Overall, her version of the capabilities approach, in endorsing a minimum threshold level of capabilities that should be achieved by all human beings, can be considered a partial and minimal account of a theory of social justice.

Criticisms of the Capabilities Approach

The capabilities approach provides a new perspective on questions of well-being, justice, and poverty. However, while the approach has gained increased recognition in academic and policy arenas alike, it is not without its difficulties. Among others, two are worth mentioning. First, the approach is not a full-fledged theory, and as such, many theoretical and normative elements are in need of further specification—for example, the questions of what capabilities should be chosen and, if threshold levels of achievement are identified, what the requirements of justice are beyond them. Second, since the approach is intentionally open, the question about what is needed to develop a full capability theory of justice needs further exploration. Notwithstanding these limitations, the approach advances our understanding of well-being and freedom in significant ways.

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See also Phronesis (Practical Reason); Rawls, John; Utilitarianism

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Capital: Cultural, Symbolic, and Social

Capital is the central concept in the research tradition developed by the French sociologist Pierre Bourdieu (1930–2002) and his collaborators. In the period since this concept was forged during the 1960s, it has become widely used in virtually all branches of the social sciences and humanities. Capital in Bourdieu's sense denotes certain kinds of assets or resources—namely, those that gain social recognition. Take, for example, a PhD degree from an esteemed site of learning. To function as capital, this degree has to be recognized, in both meanings of the word: It has to be recognizable—all concerned have to be able to identify it—and its value needs to be acclaimed. (This is the case with doctoral degrees within the scientific community and in many other contexts in most societies, although this has not been the situation always and everywhere—in China in the days of the Cultural Revolution, for example, such a qualification probably was a handicap!)

Bourdieu differentiated between various species of capital. *Symbolic capital* is the most general concept. Any kind of asset—titles, know-how, material belongings, whatever—functions as symbolic capital if and only if it is ascribed value. This is true also for *economic capital*—made up not only of income, fortune, and material possessions but also of proficiency in mastering the private economy and comprehension of the world of finance; to be a form of capital, these things must be valued. *Cultural capital* is, alongside economic capital, the most powerful and effectual kind of asset at least in societies within the Western sphere of influence. In France

and similar countries, key components of cultural capital are familiarity with high culture and sophisticated skills in speech and writing, capabilities that are predominantly inherited from an upbringing in the upper social classes and also acquired in elite schools. *Social capital* is what makes it possible to profit from family bonds and contacts with friends, acquaintances, or old schoolmates. In addition, there are numerous more specific species of capital: educational capital (measured by, e.g., degrees), scientific capital (repute in the learned world), and so on.

Cultural Capital: The Classical Studies

Among educational theorists, Bourdieu's most well-known concept is probably cultural capital. While the term *cultural capital* was not introduced in Bourdieu's published writings until 1966, the concept was already very important in his first studies on the French educational system during the early 1960s, though at that time it was designated by other words: *cultural heritage*, *social heritage*, *cultural privilege*, and *cultural level*. It was originally used to explain the finding that variations in educational achievement among children from different categories of families could not be traced back solely to differences in economic conditions. Even more decisive in determining a successful trajectory through the education system were other resources in the parental home, especially the parents' educational level, mastery of the French language, and familiarity with the fine arts, together with all the other fine-tuned distinctions in the lifestyle and social conduct of the upper social classes. These kinds of symbolic possessions were labeled cultural capital. In a meritocratic society such as France, cultural capital is to a large extent sanctioned and transmitted by the education system. Therefore, in empirical research, the education achieved by individuals or groups—its character and its length—is frequently used as a rough indicator of the amount of cultural capital at their disposal.

In France, the book titled *The Inheritors* made Bourdieu famous almost overnight when it was published in 1964. Those "inheritors" were university students in the humanities faculty who tried to make themselves heirs of the assets that Bourdieu was later to label "cultural capital." Most of them had been equipped at home with a more or less solid cultural heritage that served as a precondition for smooth adaptation to the demands of the university. Those less well furnished had, with few exceptions, been already eliminated at lower levels of the school system. Besides selecting and rejecting different categories of the rising generation according to their possession of inherited cultural capital, the education system is also in itself the main site for the reproduction, legitimization, and transfer of cultural capital.

If these observations seem trivial or self-evident today, it is thanks to the seminal investigations by sociologists, especially in the 1960s. At the time, Bourdieu's conception of the educational system was highly controversial; the predominant view was what he described as *l'idéologie du don*—the ideology of the gift and the giftedness, namely, that schools and universities distributed their rewards according to the students' talents, regardless of social characteristics. The book on the inheritors made Bourdieu not only famous but infamous; he has testified that after its publication, former colleagues and teachers stopped greeting him when they met in the street.

Although originally developed to answer questions within the sociology of education, the concept of cultural capital also offered a key to understanding the structure of society as a whole. In contemporary sociology, social differentiation was commonly depicted as a vertical ladder with the rich at the top and the poor at the bottom. In works such as *Distinction* (1979), Bourdieu and his collaborators introduced a multidimensional understanding of the French "social space." Besides the vertical social hierarchy—with "the dominant class" at the summit, "the popular classes" at the base, and "the middle classes" in between—they did research on oppositions that stretched in other directions. Most important was the horizontal polarity separating groups holding more economic than cultural capital from those holding more cultural than economic capital. Thus, the dominating class consists of two main opposing factions: on the one hand, groups with abundant economic assets and economic power—owners and executives of big corporations and the like—and on the other, culture producers—university professors and others whose positions were based mainly on the possession of cultural capital. Two corresponding poles were found within the region of the middle classes: owners of small businesses versus librarians and schoolteachers.

Definitions of Cultural Capital

In the studies of French society, and subsequently in many other countries within the Western realm,

Bourdieu and his followers were able to identify cultural capital as the species of capital that is recognized throughout the entire society, by all social groups. It is especially appreciated among members of the dominating class—where it is also concentrated—but the lower ranks of the social hierarchy are aware of the supremacy of the legitimate cultural capital as well, although they might dislike it and realize that it is not available to them.

Of course, the content of cultural capital varies over time and from society to society. In the classical studies in the 1960s and 1970s by Bourdieu's team in France, it was found to be centered on highbrow culture, proficiency in spoken and written French, and other assets that were sanctioned and transmitted by the most prestigious schools. The content has changed since then. Not even in France does the mastery of Latin and Greek any longer constitute a principal component of cultural capital.

A simple way to trace the content of cultural capital is to ask the following question: "If in spite of limited economic means, you hold some kind of acknowledged position in society, what assets of yours entitle you to that position?" Those assets might be called cultural capital, at least in societies within the Western hemisphere. In very different kinds of societies, the most powerful noneconomic species of capital might instead be political, religious, or military.

An alternative definition is historical. Symbolic capital has existed in all places and at all times, wherever human beings share a perception of certain skills, capacities, or belongings as marks of honor, prestige, reputation—words that Bourdieu used in the late 1960s before he settled on "symbolic capital." With the expansion of writing techniques and the establishment of an education system, a new species of symbolic capital emerged—cultural capital. It was more stable and more transferable across regions of society and across generations since it was no longer necessarily attached to certain individuals or groups but could be objectified, as, for example, in documents, and institutionalized, as in titles and exams.

Social Capital

Individuals and groups do not only possess capital of their own. A wider array of resources is available among their relatives, friends and acquaintances, alumni from their old school, and other personal networks. "Social capital" denotes this repository of potentially available assets ready to be activated when required. If you are rich in social capital, you might be able to receive advice from a nephew working in the banking business when you consider taking a mortgage loan; and when in doubt about what school to choose for your children, you might call a former classmate who has ended up in the National Board of Education.

As in the case of cultural capital, the concept of social capital likewise emerged as a hypothesis to explain the findings in the early studies on education by Bourdieu and his collaborators. Even individuals equipped with similar holdings of inherited cultural and economic capital and comparable school achievements might meet with quite different fates in higher education and professional life. One reason for the success of some and the failure of others seemed to be differences in their social capital. For example, some had access to precious contacts, while others had to settle for the student counseling and employment services.

Social capital in Bourdieu's sense should not be confused with other notions with the same name. "Social capital" as introduced by the North American sociologist Robert Putnam in the 1990s is a different concept; it refers to the societal glue created by the networking of individuals at the grassroots level, which was supposed to foster cohesion, democracy, and economic development—individuals without such networks were said to be "bowling alone."

Fields and Field-Specific Capital

Most of Bourdieu's other key concepts are related to the concept of capital. *Habitus*—systems of dispositions that allow people to act, think, and orient themselves in the social world—might be regarded as a form of embodied or incarnated capital.

Another essential concept is *field*, introduced in a few theoretical texts by Bourdieu around the year 1970 and subsequently used in a steadily increasing number of historical and empirical studies from his research center. If we keep to the so-called productions fields, each of these is defined by its own "field-specific capital." The literary field—explored in *The Rules of Art* (1992)—is the site for the production and endorsement of literary values. The bearers of literary capital are recognized authors, together with critics, editors, and others to whom the field gives the authority to pass judgments on literary quality—and on authors.

In the same manner, the scientific field constitutes its own scientific capital. As shown in *Homo Academicus* (1984), there are also other species of capital at stake in academia, associated with, for example, administrative academic power, the industry's commercial concerns, or the agendas of the mass media or the political field. However, provided that the scientific field is autonomous enough, it controls its own mechanisms for the consecration of the most prestigious research achievements (and researchers), the selection of acceptable new entrants and the rejection of the rest, and the allotment of rewards and penalties—all of this based on the distribution of scientific capital.

The *field of power* is the system of relations between all important species of capital in a society, including the economic, juridical, political, bureaucratic, scientific, and artistic. In *State Nobility* (1989), Bourdieu and Monique de Saint Martin demonstrated that the system of elite education institutions in France did exhibit the same structure as the French field of power.

Controversies

Reoccurring debates on the early works by Bourdieu and his collaborators have addressed the question of to what extent the findings were exclusively French. Even if the concepts and methods have proven to be useful in studies of other societies and other time periods, it would be unwise to assume that the same *results* apply. In most other contexts, for example, the content of cultural capital will probably be different—maybe less marked by highbrow culture, as has often been suggested.

A limitation in the early analyses of the different species of capital and the fields is that the national borders were taken for granted. Therefore, intense efforts have been made to widen the framework to include transnational and global phenomena.

Donald Broady

See also Cultural Literacy and Core Knowledge/Skills; Reproduction Theories

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Cardinal Principles of Secondary Education

The *Cardinal Principles of Secondary Education* is a 32-page report issued in 1918 by the Commission on the Reorganization of Secondary Education. The National Education Association formed the commission, chaired by Clarence D. Kingsley, amid concerns about demographic changes from immigration, urbanization, and industrialization, which resulted in a rapid increase in high school enrollment. The commission's 28 members represented a range of education professionals. Serving as members at large, for example, were the sitting U.S. commissioner of education, three education professors, a philosopher, the education secretary of the YMCA, the principal of the Chicago Normal School, a university president, a high school principal, and a state high school supervisor. Their work was intended to guide the education of youth during a watershed period in American history. This entry describes the report, its content, and conflicting interpretations of its influence.

The *Cardinal Principles* report is most widely known for organizing the purposes of secondary education around seven broadly defined objectives. These objectives include the following:

1. *Health*, including instruction in health habits, physical activities, and community health interests

2. *Command of fundamental processes*, particularly advanced language and mathematics proficiencies
3. *Worthy home membership*, with a focus on contributions to wholesome family relations as well as family enjoyment of literature, art, and music
4. *Vocation* education to equip individuals with a livelihood that benefits themselves, their families, and society
5. *Civic education* to develop the qualities, habits, and practical knowledge necessary for individuals to function as members of neighborhoods, towns, states, and nations, and necessary to understanding international problems
6. *Worthy use of leisure* to prepare students in culture and the arts for recreation of the body, mind, and spirit, and for personal enrichment
7. *Ethical character* education and modeling of moral codes that promote personal responsibility in the service of democratic life

The *Cardinal Principles* report remains widely studied for at least three reasons: (1) its objectives as a statement of evolving aims for secondary education, (2) the report's democratic focus, and (3) its contributions toward an enduring model for high schools.

The first reason for continuing interest in the *Cardinal Principles* is that it represents a classic statement of what is called "aims talk" in education. Aims talk is associated with philosophical traditions stretching back to Plato's *Republic* and his "myth of the metals." In this allegory, Plato begins by identifying the needs of Athenian society for three distinct classes: rulers, guardians, and artisans. Although education was to serve social needs, Plato also argued that if young Athenians are carefully selected for gold, silver, or bronze training, the individuals would be personally committed and content with fulfilling their social roles. The *Cardinal Principles* report is often credited with helping to bring this tradition of aims talk into the industrial age. Some have argued that aims talk has waned in recent years. Nevertheless, such periods of neglect have punctuated educational history, only to have aims talk rebound as social and technological changes once again push questions of purpose to the forefront of educational concerns.

A second reason for the report's significance is its explicit emphasis on the needs of popular democracy. Here, the *Cardinal Principles* report is often compared with that of the Committee of Ten, a commission also founded by the National Education Association but 25 years prior to the *Cardinal Principles*. The Committee of Ten commission, chaired by Harvard University President Charles W. Eliot, is generally viewed as confirming the value of traditional academic subjects.

The intervening shift by 1918 to a more progressive stance is often attributed to demographic trends. Prior to the 20th century, high schools were attended by very few adolescents and almost exclusively by those with an elite and affluent social standing. Yet school-age populations were beginning to change by the turn of the century. Enrollments increased, and as a result, schools found themselves dealing with a greater diversity of adolescents with a greater range of interests. Moreover, immigration to urban, industrialized areas was also on the rise, together with a perceived need to assimilate those new to American culture.

Today, the intentions and outcomes of this "democratic experiment" are contested. Some educational historians, particularly after 1960, came to view the *Cardinal Principles* as promoting a rapid proliferation of new high school courses that undermined the report's espoused aims of equity. Other historians have interpreted the expansion of course offerings as an attempt to balance the needs of both psychological and social development. On this point, the report speaks directly to the unique worth of individuals and their right to self-determination. It also stresses the importance of relevant and practical knowledge within the scope of its seven objectives.

A third, and related, reason for continued interest in the *Cardinal Principles* report is that it presaged what many regard as a uniquely American invention: that is, the comprehensive high school. Here, the *Cardinal Principles* signaled a turning point away from the elite and often esoteric curriculum of the 19th century. The report authors do not relinquish the aims of college preparation, but their objectives go well beyond academics to include, for example, home membership, leisure, and calls for vocational programs. From its progressive beginnings, the comprehensive high school was soon to become a cornerstone in the nation's "melting pot," and in doing so, this model for secondary education now continues into the 21st century with only minor changes.

David J. Flinders

See also Aims, Concept of; Immigrants, Education of; Progressive Education and Its Critics; Schooling in the United States: Historical Analyses

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Case Studies

Case studies feature prominently in the educational research literature, but what precisely is a case? It is an in-depth, multifaceted examination of something, where the something can be a person, a group, a class or a school, an organization, a community, or even a process (an instructional episode, an election, a policy being formulated). Sometimes, the issue or phenomenon or problem that is the focus or theme of the case is known before the research work begins, but it is also quite common for the precise nature of the study to emerge during actual work on-site.

A case study can be narrowly focused, or it may cast its net widely and include as part of its examination the complex interactions between many facets of the setting in which the research is grounded. Whatever the research question is and whatever the physical setting, the case study is an attempt to paint a complete picture of the pertinent factors and processes, how they interact, and how these might vary as conditions or circumstances change.

It is important to stress that researchers doing a case study are not attempting a major intervention in the situation, setting, or process that is its focus; they are not attempting to implement a treatment or program (e.g., they are not attempting to ascertain, using a randomized experimental design or a quasi-experimental design, whether Treatment X causes Effect Y)—unless, of course, the process of implementation of a treatment or reform is itself the focus of the case. The purpose of a case study, in short, is to understand what is going on in the situation, or with respect to the problem, that is being studied, why this is happening, and how the various aspects of the case relate to each other.

A detailed example will be helpful here. Consider a researcher who is interested in the phenomenon of homophobia in school sports; she might decide to undertake a case study of a particular high school football team, in a specific school, with the aim of achieving an "ecologically valid," deep understanding of the phenomenon—perhaps for its own sake or before carrying out more focused work involving interventions. Clearly, this researcher's first task will be to select the site in which the case will be developed, for not all sites (not all football teams) will be suitable venues for studying the issue that is the focus (the case here being one of "homophobia in school sports"). Thus, the particular team could be selected because it has a coach who is known to discuss equity in all its various forms, or it is a team in a school that has a past history of homophobic acts, or the school district has active policies about equity, or, as happens in many instances, in this site there is a combination of advantageous factors, including accessibility for the researcher.

While working on the case, the researcher might examine district, school, and athletic department policies; the perspectives and backgrounds of the coaches; students' views of their own and fellow students' and coaches' views of homophobic behavior; the school administration's position and monitoring of related issues; and even attitudes toward homosexuality in the broader community that is the context in which the school—and its football team—operates. She also would go further and examine the interactions among coaches and players during practice sessions and games. As a result of her observations, the researcher might be led to examine the impact of homophobic language on gay and straight players and on team cohesiveness and team climate.

As can be seen from this example, case study researchers use a variety of evidence and attempt to approach the central focus of the case from multiple levels and angles. What might not be as apparent is that data collection is only one aspect of the case study. The analysis, and the depth to which it is conducted, is equally important. Merely to report the data that were collected is to remain at the level of description, and powerful case studies go beyond this.

An important methodological feature of most case studies is that the analysis of data is not relegated to the final stages of work but takes place

throughout the course of the study and actually progressively influences the direction the study takes—researchers examine the data and ask "why" the case functions as it does. In the football team example, if homophobic language is used, why is it used? Is it because of the traditions of the sport and the backgrounds of the coaches? Are some coaches uncomfortable with its use but are having concerns about expressing this? What is the impact on the athletes, both gay and straight? How do district policy and administrators' perceptions and explicit and nonexplicit statements relate to how coaches see homophobic language and behavior?

In other words, the progressive analysis of the data in hand raises further questions—the pursuit of which drives understanding of the issues in the case deeper; and ultimately, the reader of the research can be given an in-depth perspective on what occurred, how it occurred, and why it occurred.

Another point needs to be made about the methodology of case studies. Often researchers, and consumers of research, think that case studies exclusively employ qualitative methods. But this is not an accurate perception, for a case study may use qualitative, quantitative, or mixed methods to collect data. To continue with the football team example, the researcher could use only qualitative methods by taking field notes while observing practices, coach and team meetings, and informal interactions while moving from the locker room to the practice field, on the team bus to a game, and during a game. She also may interview coaches, athletes, other students and administrators, as well as fans of the team. In addition, the researcher may collect materials (e.g., district and school policy manuals, fliers that are handed out to students); she could even go further and photograph locker room graffiti and material on bulletin boards throughout the school. All of this material would provide useful information about the case.

However, quantitative methods might also be used in this study. For example, the researcher might use surveys to document homophobic attitudes for each of the players and for the coaches; she might use data from school district and police reports that describe the number and type of homophobic incidents at the school; furthermore, she might use a systematic observation instrument to observe both equitable and homophobic behavior during practices. The qualitative and quantitative data would complement each other and be used during analysis to get more insight into the case.

Case studies can also be exclusively quantitative. For example, a case study of budgeting practices in an urban school district could use multiyear budgets to examine trends and relationships with a number of factors, including student achievement, teacher hiring and retention, and high school graduation rates. An analysis could be conducted of school board and committee meeting minutes to determine their specific focus on budget issues and the time spent on those issues. Surveys could be conducted of parents, teachers, and administrators about the impact of budget decisions. And economic trends could be analyzed to view the district's budget in context. The analysis would use all these types of data to elucidate what occurred and the relationships between the different types of data.

The main limitation or drawback of case studies is related to their greatest strength. Because they focus on gaining an in-depth understanding of a specific problem, issue, or phenomenon in a specific setting, their findings are not generalizable to other settings. The case study informs us about the unit being studied—about, for example, homophobia in *this* team, with *these* students having *these* backgrounds, with *this* coach, and in *this* school and community. It certainly can provide information to inform other research and to serve as background or a starting point for an examination of what is occurring in other, similar settings.

A reader of a particular case study may find the results and analysis helpful in throwing light on his or her own situation, but how helpful it is will ultimately depend on how many points of similarity exist between the situation of the reader and the setting in which the case study was conducted. Nevertheless, while generalizability is not technically possible, readers often get information from case studies that, if used cautiously, can enhance both future research and professional practice.

Stephen Silverman

See also Evaluation of Educational and Social Programs: Models; Experimental and Quasi-Experimental Designs for Research: Campbell and Stanley; Qualitative Versus Quantitative Methods and Beyond

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Castoriadis, Cornelius

Cornelius Castoriadis (1922–1997) was a Greek philosopher, psychoanalyst, social theorist, and political activist who lived in France most of his life. For a long time, he was best known for his political writings in the group Socialisme ou Barbarie (Socialism or Barbarism), which he founded together with Claude Lefort, but his philosophical work is increasingly being introduced to a range of academic disciplines, such as education. His intellectual inspiration ranges from Karl Marx, Sigmund Freud, and Max Weber to German idealism and the phenomenology of Maurice Merleau-Ponty; but arguably most important was his lasting interest in Aristotle and the ancient Greeks. A key to the increasing interest in Castoriadis is his unique combination of political seriousness and scholarly sophistication, as reflected in his many-faceted, almost encyclopedic work.

Castoriadis saw himself as part of the grand Western tradition, where education and philosophy are two sides of the same coin. He did not write specific texts on education but emphasized its significance in numerous political and social writings, especially those discussing politics and democracy. A central concept in these discussions is the notion of "individual and collective autonomy," which signifies the awareness that societies are self-created and can therefore be re-created in conscious and explicit ways. Democracy, in its original Greek sense, is seen as a regime that facilitates such political creation. However, for democracy to realize its potential as a regime of autonomy, a specific kind of education is required, an education through which the citizens come to see society (or the polis) as their own responsibility.

In ancient Athens—Castoriadis's preferred case for discussing autonomy—the city and the citizens were in fact one and the same phenomenon as covered by the term *athenai*. To become a responsible citizen in this emphatic sense means, for Castoriadis, to become a *subject*. Compared with the social *individual*, who is simply a product of society, a "subject" is a reflexive agent capable of questioning both the world and himself. Thus, while a democratic subject maintains a responsible attitude, he or she does not necessarily accept and defend society as it is—more important for Castoriadis is the capacity to question existing institutions and their grounds, their legitimacy and justification. The great invention of the Greeks was, precisely, to realize that the laws had no other foundation than the commitment of citizens to the pursuit of justice, the quest for truth, and the care for beauty. In the historical case of Athens, philosophy and politics co-emerged in the first manifestation of what he calls the project of autonomy, but this impulse is still more or less active today in modern Western societies.

Citizens in a democracy engage in the political recreation of society's institutions; but autonomy also implies a realization that the world *in itself* is chaos, meaningless, and that there are no extrasocial foundations for the socially instituted world. Autonomy is a project with no guarantees—with the exception of the limits we set for ourselves. This leads us to another, central concept in the work of Castoriadis—the "imagination," which signifies the (human) capacity to create meaning and significations. According to Castoriadis, the social world is instituted by and through significations that have no foundations outside of themselves; that is, they are self-founding and "imaginary" in a "radical" sense—they are the instituted meanings that hold a society together and are embodied in its institutions. Like autonomy, the imagination has a social and an individual side (the terms he uses are the social historical and the psyche). In his main oeuvre, *The Imaginary Institution of Society* (from 1975), Castoriadis discusses the creative role of the imagination in various regions of thought, such as historiography, ontology, psychoanalysis, the philosophies of time and language, and social theory. Large sections are devoted to the development of the notion of social imaginary significations related to an ontology of the social historical, thus forming a comprehensive alternative to methodological individualism and functionalist thought.

The Imaginary Institution of Society was not translated into English until 1987, and it remains his only monograph. His other publications consist of various collections of essays and talks, some still awaiting translation into English. The most important collections in English are (in chronological order) *Crossroads in the Labyrinth* (1984), *Power, Politics and Autonomy* (1991), *World in Fragments* (1997), and *The Castoriadis Reader* (1997). His seminars on Greek history and thought, *Ce qui fait la Grèce* (2004, 2008, 2011; Volumes 1–3), are also seen as central.

In some of these essays, Castoriadis elaborates the connection between education, subjectivity, politics, and psychoanalysis. As a rule, however, his conceptual discussions were an integral part of broader discussions related to political and moral problems. In the latter part of his life, two such problems emerged that made him concerned about the future of politics, in the emphatic meaning of the term, namely, the impending climate crisis and the inability of contemporary institutions to facilitate political creation. In this situation, education becomes more important than ever, yet its direction remains unclear and the grounds for hope, uncertain.

Castoriadis's work is the subject of growing international interest, and numerous publications are currently emerging in political theory, philosophy, classical history, civilization theory, mathematics, social theory, and many other disciplines. An original and demanding thinker, Castoriadis seems to appeal to students especially. One plausible reason for this is the urgency with which he addresses the themes of his time, such as the ecological crisis and the crises of creation and politics, as he saw them.

Ingerid S. Straume

See also Autonomy; Citizenship and Civic Education; Freud, Sigmund; Marx, Karl; Phenomenology

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Causation

Causation is an everyday notion that we often employ unblinkingly to navigate the contingencies of our lives. We take it for granted that putting your hand in boiling water will cause your skin to blister, alcohol on a scratch will cause the sensation of burning pain, and pressing the brake pedal will cause the car to stop. We also more or less accept that smoking can cause lung cancer, that wanting to return a book can cause a student to walk into the library, and that inadequate preparation will likely cause low exam performance. But does "cause" have the same meaning in all of these cases? The temporal and logical relationships between these events, as well as the nature of the events themselves and their practical implications, seem to vary. Is there anything they have in common? Can their web of resemblances be traced?

This entry introduces some of the ways in which philosophers have attempted to answer these questions. It highlights the ontological and epistemological complexities of the notion of causation and connects them to debates in social and educational research. Finally, it notes the debates around the merits and limitations of causally oriented projects of educational research.

Defining Causation

There are many contexts for everyday and specialized uses of the terms *causation* and *causality*, and of their relations, including not only cause, effect, event, condition, phenomenon, process, and variable but also law, rule, regularities, correlation, probability, as well as determination, explanation, and prediction. Further complexity comes from the diverse metaphysical perspectives on causation, ranging from seeing it as a fundamental feature of the world, to seeing it as reducible to noncausal facts, and even to not seeing it as a feature of the world at all but a category through which we understand it. This diversity has implications for the epistemology of causation, for example, in describing the sources of causal beliefs as direct perception or as inference from experience, or in viewing them as a priori, and in finding ways in which causal relations may be modeled.

The history of philosophy abounds in examples and counterexamples that show how lastingly complicated the task of defining causation is. For example, Aristotle developed a theory of causality and of explanation that distinguished between four causes, only some of which overlap with current uses of the term and which may coincide in time with the effect: (1) material (e.g., the bronze of a statue, the silver of

a saucer); (2) formal (e.g., the triple meter in defining a waltz); (3) efficient (e.g., the father of a child, the adviser of an action, the maker of an artifact); and (4) final, or teleological (e.g., health as the end, or aim, of exercising).

In contrast, for Hume, causation is based on a habit of the mind arising from repeated experience of a regular succession of events, which enables it to establish connections, or associations, between ideas. Causal beliefs are inferred from past experience of customary conjunction between the (antecedent) type of object or event and its regular and contiguous successor. Causal ties, or connections, are not necessarily a priori, nor are they directly observed as such. The sense of necessity accompanying them arises from the experience of constant conjunction; thus, causal statements are tentative predictions that the same succession of events will continue in the future.

Kant responds to Hume by advancing a conception of both causality and necessity as a priori categories of understanding, which are prerequisites for our meaningful experience of the world. Causality is a condition of the possibility of the experience of sequence or succession, and thus of empirical claims about change and stability. The causal principle is thus justified "transcendentally": It is neither purely inductive nor purely deductive and neither purely empirical nor purely rationalistic but what Kant calls a synthetic a priori proposition, which is at the same time substantive and independent of empirical experience.

Theories of Causation

Traditional accounts of causation, such as those noted above, are still the kernel of current debates, including those between pluralist/generic and singular/particularist accounts of causes and effects; fundamentalist and reductivist, or (physical) realist and (mental) attributionist ontologies of causation; deterministic and probabilistic views of causal relations; and analyses of actual and potential causality. Building on and sometimes challenging these accounts, philosophers have refined this conceptual palette to explicate causation in ways that speak to current scientific and technological developments. In these refined accounts, regularity, antecedence, and contiguity still feature heavily; sufficiency and conditionality have also maintained their grip; probability and counterfactuality have taken leaps; agency and process have made intriguing comebacks. There are profound disagreements about the definition of each of these concepts, about their sometimes conflicted relationships with each other, and about their articulation with the wider notion of causation. What follows is the briefest whistle-stop tour of some of these theoretical proposals; Beebee, Hitchcock, and Menzies's edited collection, which includes chapters on each of these theories, is a good starting point for further exploration. Some of the best-known recent theories of causation attempt to account for it in terms of the following.

Regularity

A wide-ranging group of contemporary theories of causation, influenced by Hume, hold that causation is based on mind-independent regularities rather than on natural powers of necessity (as a metaphysically thicker conception of causality might suggest, such as Harré's ontology of real "causal powers").

Minimal Sufficiency

In tight connection with the regularities account, empiricists such as Mill have argued not only that causes are not fundamental "forces" in the world but also that they are "antecedents" that jointly (and also in the absence of negative contingencies) form a sufficient condition for an effect. Whenever this condition is realized, it will be invariably followed by the same type of consequent. The relationship thus depends on generic regularities, or "covering laws." The notion of covering laws inspired Hempel to develop an influential account of causal explanation, the so-called deductive-nomological model. In this account, a causal explanation consists of a deductive argument from a set of relevant antecedent conditions and lawlike statements to the occurrence of an event. Identifying and describing both antecedents and laws is far from straightforward, however. Mackie proposed an account, occasionally cited by social scientists, that allows for complex regularities and plurality of causes. He describes causation in terms of combinations of factors that are minimally sufficient for bringing about an event but that may not be necessary (as other combinations may also be sufficient). Each factor in these combinations is a "cause" in the sense that it is an "INUS" factor, or an insufficient but nonredundant part of an unnecessary but sufficient condition made up by each of these clusters of factors. For the social sciences, this account faces the difficulty of distinguishing, among the different factors, between a cause and a merely spurious contingency.

Counterfactual Dependence

Counterfactual analyses of causation introduce a notion of possibility to test the relationship between cause and effect as distinct possible events: In Lewis's definition, E causally depends on C because if C were the case, then E would be the case, and if C hadn't occurred, E would not have occurred either (counterfactual). Counterfactual dependence can be deterministic or probabilistic (in the latter case, E would have had a different probability of occurring). Such accounts of causation have been attractive to evaluation researchers, as well as to quasi-experimental research; however, these areas of research have also raised challenges to counterfactual approaches, such as the need to accommodate common and competing causes and alternative causal chains, or the difficulties in accounting for negative causation and for overdetermination of social events.

Probability

Even more attractive for many social researchers has been the account of causation in terms of the probability of effects. In a simple theory, causes increase the (calculable) probability of effects. Thus, as argued by Salmon, sufficient causes become a "limiting case" of probabilistic ones. The logical empiricists of the 1920s and 1930s grappled with mathematical notions of probability, but it is in more recent decades that the design and application (e.g., in artificial intelligence) of mathematical techniques for calculating probabilities and modeling causal relationships (e.g., Bayesian causal nets) fully took off. Showing probabilistic dependency does not, however, always amount to a full causal explanation. Some dependencies can be accidental; social and educational research is full of correlations that cannot be interpreted causally, although they may indicate probabilistic dependency. Sea levels and higher education enrollment may have grown over the past century, but if they happen to be correlated, the correlation would be of little help in constructing a causal explanation of either of the two.

Process

Descriptions of causation in terms of relations between discrete contiguous events can quickly run into problems—not the least with regard to carving space and time into sequences of sufficiently narrow or wide causes and effects. Salmon and others proposed to address this issue by focusing instead on the interactions between continuous processes. This proposal may accommodate some important features of, in particular, physical causation; however, for the social scientist, questions of negative causation, historical causation, or mental causation continue to loom large.

Intervention

Manipulation of variables is key to (human) agency- and (human or nonhuman) intervention-based approaches to causation. The basic idea that manipulating a variable (cause) may lead to a change in the value of another (effect) underpins experimental and quasi-experimental research. Early agency-based theories of causation were criticized for their anthropocentrism, but as noted by Woodward, more recent versions of intervention theories have been refined to allow for nonhuman intervention, for combinations of interventions, as well as for multiple and contributing causes.

This conceptual diversity, together with its unresolved tensions, is echoed in the ways in which education and other social researchers state their aims, frame their inquiries, and stake their claims.

Challenges for Education Research

Questions about the nature of causation might not always occur to us in the relentless flow of everyday life, but they matter deeply when people attempt to build descriptions and explanations, draw inferences, and make predictions. Research, including social and educational research, is a systematic way of attempting these tasks, and thus it grapples with issues of causation at all its stages—including asking research questions, analyzing research data, interpreting research results, and critically assessing competing claims from research. For example, Morrison discusses 10 possible ways of framing and answering the question "Why do East Asian students perform better than their Western counterparts in international studies of educational achievement despite discredited pedagogical practices of rote memorization and drill?" Rival explanations of the differential in performance have been developed within particular bodies of literature, which have operationalized the question in their own ways and some of which have produced causal claims seen as contestable by other traditions. Further testing of these tentative explanations and working out of their implications for action may be limited by practical and ethical considerations, which often make it more

feasible to plan for a correlation study (yielding a set of stronger or weaker regularities that may or may not be accepted as evidence of causal relations) than for a study attempting manipulation of causal variables, which would try more directly to focus on the relationship between purported causes and effects. Recent pressures on educational research to demonstrate "what works," for whom, and in what circumstances have led to more emphasis on experimental designs, and in particular on randomized controlled trials, which test the effectiveness and efficacy of an intervention by comparing treatment and control groups of randomly allocated participants.

Despite this interest, there is extensive debate about the grounds for causal claims in the social sciences, including educational research. Three decades ago, Lincoln and Guba went so far as proclaiming causality a "placeholder" theory akin to those about ether and phlogiston, and equally useless in research. Common objections to the possibility of causal explanations in the social sciences refer to difficulties in testing causal claims; it is argued that, as perfect isolation of social phenomena or variables is not possible, the ceteris paribus (other things being equal) condition for claiming causality from experimental manipulation cannot be achieved. It is argued that this limitation, coupled with difficulties in establishing causal chains among phenomena that are aggregate in character, undermines the epistemic status of causal generalizations in the social sciences. Probabilistic explanations seem more common in the social sciences than deterministic ones, and even in the case of the latter, the apparent causal overdetermination of any social event makes causal claims laborious to produce and complicated to define and qualify. There are also limits to the capability of statistical techniques to model causal relations and to distinguish them from, for example, relations of supervenience or covariance—which may show that relationships exist, without explaining why.

In addition, both the phenomena researched and the tools and perspective of the researcher are infused with various social meanings; as a result, some social scientists have stated the aims of their inquiry in terms of understanding, or *verstehen*, and critique and have distanced them explicitly from (causally) explanatory aims. In so doing, they may reject arguments, such as Davidson's, that reasons (as combinations of attitudes and beliefs) are causes for action, and thus that explanations in terms of reasons are a subspecies of causal explanation; instead, they may argue that illuminating and interpreting human action, if at all directed at explaining it, would lead to descriptive or teleological, rather than causal, explanations.

Furthermore, critiques are framed in terms of the dynamics of scientific development: While deterministic and nomothetic conceptions of science may make intervention research and the testing of causal hypotheses the "gold standard" or pinnacle of good research, naturalist and poststructuralist conceptions of science are suffused with heightened awareness of the relations of power and control that may underpin public and political interest in research leading to causal explanations and predictions.

Alis E. Oancea

See also Aristotle; Evidence-Based Policy and Practice; Experimental and Quasi-Experimental Designs for Research: Campbell and Stanley; Kant, Immanuel; Philosophical Issues in Educational Research: An Overview; Probability and Significance Testing; Qualitative Versus Quantitative Methods and Beyond

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Cavell, Stanley

The contribution of Stanley Cavell (1926–) to thinking about education is not to be found in any curriculum reform, or in the promotion of any philosophical position, or in the delineation of any theory. Hence, it is not surprising if his name is less familiar among educationalists than that of, say, John Dewey, Jean-François Lyotard, or Michel Foucault. Yet it would be no exaggeration to say that education is Cavell's abiding theme. Hilary Putnam has called Cavell one of the most creative thinkers today and "the only living American transcendentalist" (conversation with Putnam, March 2012). Indeed, Cavell takes up themes that are there in Ralph Waldo Emerson and Henry David Thoreau—centering on the idea of moral perfectionism—as well as building on insights into teaching and learning that pervade the writings of Wittgenstein (these three, in addition to J. L. Austin, being the most powerful influences on his work). Extending the boundary of traditional philosophy to literature, art, and film and opera studies, he returns philosophy to the world of the ordinary.

A philosophical entry point into his work is provided by the topic of skepticism. Epistemologists since the time of René Descartes have addressed the questions of how there can be knowledge of an external world or knowledge of other minds, and it has widely been taken that Wittgenstein's *Philosophical Investigations* provides a refutation of such doubt. It is not that Cavell wishes exactly to deny this, but he does take the view that this is to miss the book's point. That point is rather to express the existential truth in skepticism: Skepticism in epistemology is to be seen, then, as a manifestation within philosophy of a more general disturbance in human life—the human tendency to call into question its own condition (Cavell, 1969, 1979). The philosopher's skepticism needs to be seen, on this account, as related to the kind of doubt that bedevils a Shakespearean hero, such as Othello (How can he know that Desdemona has not been unfaithful?) or Leontes in *The Winter's Tale* (How can I know that this is my son?) (Cavell, 1987, 1988). It is a short step from here to the multiple ways in which we doubt, to our cost, what we ordinarily know—as, for example, where the experienced teacher's folk psychological knowledge is disparaged in favor of expert opinions or where, in the absence of the testing of behavioral outcomes, learning is assumed not to have taken place.

This Wittgensteinian suspicion of theory's tendency to part company with the rough ground of reality is evident also in Cavell's repeated turn to the ordinary conditions of human life. In *The Senses of Walden* (1972), he shows how Thoreau's "economy of living" serves to challenge prevailing conceptions of accountability—including the ways we account for ourselves, which is to say, both the way we justify the way we live and also the kinds of narratives through which we conceive of ourselves. Cavell shows how Emerson's preoccupation with the common calls into question what it is that human beings in fact have in common, revealing this not in terms of some set of developmental characteristics but rather in terms of a virtuous aspiration: the aspiration to find common ground with others while acknowledging the uncommon. This is perfectionist, not in the fantasy that a perfect world is realizable but insofar as the human being is, as it were, always charged with the responsibility to improve the hour (in Emerson's phrase). This should prompt us to not only react with shame at what is wrong with our societies and our lives but also address this with hope and action committed to a better future.

Sometimes, Cavell's text is perceived to be overly preoccupied with language, even to be engaged in so-called linguisticism, but in fact, his philosophical commitments regarding language have essential social and political implications. Cavell (1984) says that the transcendentalism of Emerson and Thoreau underwrites ordinary language philosophy. He rejects the common understanding of Emerson and Thoreau as belonging to the American *literary* heritage—on the grounds that this silences their philosophical import. They are, like Dewey, committed to "democracy as a way of life."

Like Dewey, and Emerson and Thoreau before him, it certainly makes sense to see Cavell as a distinctively *American* philosopher. For him, as for them, the idea of America, its original promise and its betrayal of that promise, is never far away. But this is by no means to conceive of America in exclusive terms or to see it as a fixed identity: America

understood in perfectionist terms is still to be discovered. This is a thought always open to intercultural horizons.

Cavell's antifoundationalist, Emersonian perfectionism contrasts with Dewey's pragmatism in its greater sense of the provisionality and precariousness of the steps we take. Beyond anything offered in the exchange of communication, language itself trembles. Even a brief encounter with the texts of Dewey and Emerson already reveals a stylistic difference: Dewey's steady, sometimes monotone, homeostatic prose (encouraging balance between two extremes) contrasts with Emerson's capacity to wrong-foot the reader, arousing her from any merely passive absorption of the text, compelling her to think, and compelling her to *read*; this, in Thoreau's (1854/1992) phrase, is "reading in a high sense." Cavell is Emerson's equal in this respect. And here, in reading itself, there is a signal lesson for education, regarding the effects of the texts that are presented to students and what they are expected to gain from them. There is a lesson concerning what education can be. Thoreau subverts the idea of the "common school," which might figure as offering a kind of consolidated socialization, by claiming that what we need is rather the "uncommon school," a place to encounter strangeness in the common, the familiar. Our education will, otherwise, be "sadly neglected" (Thoreau, 1854/1992).

The subtitle of Cavell's *Cities of Words: Pedagogical Letters on a Register of the Moral Life* (2004) effectively expresses the educational intentions of so much of his work, and the book has innovative intercalation of the chapters on great philosophers with the chapters on great films. This reaffirms Cavell's (1881, 1996) faith in the educational value of cinema. Indeed, it is to the films that he saw as he was growing up that he attributes a major part of his own education. These are typically Hollywood "talkies," which means, of course, that they foreground conversation. Their central character, usually a woman, is trying to find her own voice, retrieving it from its suppression, typically by a man. The themes and tone of Emersonian moral perfectionism are worked out in Cavell's depiction of the endless perfecting of the central characters and the other through mutual education. Education is seen to be inseparable from the finding of one's voice. Yet this is something other than what one finds in contemporary affirmations of "student voice." Drawing its significance from the recognition within philosophy of the particular importance of first-person utterance (in Soren Kierkegaard, Ludwig Wittgenstein, and, crucially, ordinary-language philosophy), and from the sense that I must stand behind or be present in my words, the nature of the emphasis on voice is exemplified in *A Pitch of Philosophy: Autobiographical Exercises* (1994) and the substantial memoir, *Little Did I Know* (2010). Indeed, reclaiming the voice in philosophy, against its systematic suppression by the foregrounding of impersonal third-person utterance, is one of his central tasks in philosophy, and this provides the impetus to the adoption of the motif of philosophy as autobiography. Philosophy understood this way is less a set of problems to be solved once and for all than an obligation to be addressed continually, day by day. Without this, our words go dead on us, and the responsibility we bear for this is not only personal but also political.

This begins to reveal the ways in which Cavell's sense of the common and the communal cuts across familiar dichotomies of liberalism and communitarianism. The impulse here is something other than a political developmentalism or politics of recognition, expressed as "mutual respect," "understanding via communication," or "learning from difference." Cavell (1990) says that there is no society before individuation; and self-reliance and the orientation toward the other coexist as a paradox, the very condition of human being. Cavell is drawn recurrently to a vocabulary of sin and redemption. This is not likely to be understood within familiar ideals of autonomy or care ethics. For similar reasons, it is important to emphasize that his work disrupts dichotomies of subject and object, or inner and outer, the hardening of which causes so much confusion in research in education.

Emersonian perfectionism too is there in conversation with others, perhaps with the friend who does not passively nod in agreement or bring consolation but who confronts us with our own shame (i.e., the degraded state of our democracy), challenging us continually to the next, best possibility of ourselves. Conversation with "this another of myself" is crucial to the recovery of political emotion, the release from cynicism. Can we expose ourselves to this ongoing education? This is why philosophy, as Cavell conceives it, is in the end no less than the "education of grown-ups" (see Saito & Standish, 2012).

Naoko Saito and Paul Standish

See also Aristotle; Communitarianism; Dewey, John; Emerson, Ralph Waldo; Liberalism; Rawls, John; Virtue Ethics; Wittgenstein, Ludwig

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Century of the Child, The: Ellen Key

Ellen Key (1849–1926) figures among the few internationally known Swedish educators; but her texts, penned in a spirited and often provocative style, also deal with political issues such as feminism, marriage, religion, and politics. She is best known for her book on education, *Barnets århundrade,* which was translated into English as *The Century of the Child*.

She was educated in the family mansion itself, being submitted to a rigid educational atmosphere. Her mother, an aristocrat, taught her mathematics and grammar, while her nursemaids taught her foreign languages. When her father, the founder of the Swedish Agrarian Party, was elected to Parliament, the family moved to Stockholm. Here, Ellen Key finished her education in a private school, but she acquired a great deal of knowledge as an autodidact. From 1874 onward, she regularly published articles in several newspapers, before beginning to work as a teacher in 1880, most notably at the Worker's Institute of Stockholm. After 1903, she made a living by publishing her texts.

Inspired by various of her acquaintances who had a political, feminist, or scientific background, Key soon broke with the ideas of her milieu: She abandoned liberalism for socialism and abdicated the Christian faith to embrace a scientifically oriented moral system inspired by Charles Darwin and Herbert Spencer. A constant tension is clearly perceivable in her texts: How can the liberty of individuals be reconciled with the welfare of the community? What kind of society needs to be promoted in order to ensure women's equality while at the same time providing the best conditions possible to enable them to fulfill their roles as mothers and educators?

Her writings bear testimony to her remarkable ability to synthesize the intellectual debates of her time in a very personal vision. Hence, the ideas on education, women, and school brought forth in *The Century of the Child* are not completely new—the

originality, for example, consists in how she balances her appeal in favor of children with the fight against the degeneration of the human race.

The first chapter of the book invites its readers to abandon the "Christian concept of life," with its vision of a fallen human nature and its contempt for sexuality. Key calls for the suppression of religious instruction, which she judges to be antiscientific, hostile to individual progress, and abetting hypocrisy. Instead, she adopts a scientifically oriented morality and worldview that make her more optimistic of improving humanity. Rejecting authoritarian state measures (e.g., compulsive sterilization or prohibition of marriage), she asks for a positive eugenics that incorporates a sense of responsibility regarding sex and procreation, and she has confidence in the possibilities of producing a superior type of human by improving living conditions and reforming education. According to Key, the "future race" would not only be more capable but also happier. For a child's optimal development, the parents' reciprocal love matters as much as the child's own health. Thus, the search for individual happiness is reconciled with the future common welfare.

Her eugenic vision leads her to argue in favor of more differentiated gender roles. The women's primary task lay with the children's care and education, thereby making it unacceptable for women to work in factories as this would lead to child neglect and degeneration. The author draws a sinister picture of the social and sanitary consequences of woman-and-child industrial labor. She accuses feminists, with their strong focus on the economic independence of women, of egoism; the limits of female liberty are set by the potential development of every child. Being in favor of protective labor laws, in her later texts, she demands stronger support for mothers via a maternal salary.

Key, in her educational advice, absorbs ideas from Jean-Jacques Rousseau, Johann Wolfgang von Goethe, and Herbert Spencer. According to Key, the tasks of educators include accompanying children during their experiences, caring for their environment, refraining from constantly correcting them, and promoting their individuality instead of imposing stereotypes. From her evolutionist point of view, individual variability proves crucial to the "progress of the race." An educator must stimulate the child's will to leave the beaten track, provided it does not violate the rights of others. It is important to create an atmosphere of harmony and respect within the family, where parents are partners, brothers and sisters are treated as equals, and children participate from an early age in household chores. Key vehemently opposed castigation, something she associated with a lower degree of civilization; beatings signal the parent's lack of intelligence and patience and aggravate the child's hatred and anguish, while hurting his or her dignity and sense of justice and thus leading to later brutal behavior. Intelligent punishment consists in inviting children to control themselves in the face of the fundamental rules of social life. Therefore, it is a lot more effective to explain to crying children that their crying is unbearable to others than to cane them.

Key ranked among the contemporary critics of the school system, pointing to brainwashing, passive pupils, overloaded schedules—so much inadequateness killing off any appetite to learn, any gift of observation, reflection, or imagination. Key's book concludes with a utopian vision of tomorrow's school. She opposes nursery schools (kindergarten), which "free children from their natural individual obligations and put in their place demands that can only be fulfilled *en* masse" (Key, 1909, p. 244); on the contrary, the home should allow children to learn to be free, to provide mutual help, and also teach them the authenticity of human relations. Only at the age of nine should the child attend a completely reconditioned school where there would be individual teaching and free choice of subjects and activities. At the age of 15, specialized schools would prepare students for specific activities, thus encouraging diversity in talent and individuality.

Published in 1900, *Barnets århundrade* was quickly translated into German (1903), French (1908), and English (1909). Her ideas were widely discussed in German-speaking countries and influenced the child study movement in the United States, which emphasized the importance of observing children to intervene appropriately in their education. Her criticism of the school system joins her with the founders of the New School (John Dewey, Adolphe Ferrière, and Ovide Decroly), promoting active methods and an individualistic education. However, Key's rejection of nursery schools had no impact on contemporary educators (Friedrich Froebel and Maria Montessori). Her maternalism firmly opposed Key to the feminism of the American Charlotte Perkins Gilman, who strongly objected to the idea of women specializing in being mothers. But Key joined other feminists, such as the German Hélène Stöcker, in their will to shake off the yoke of bourgeois sexual morality and to financially assist

mothers to ensure their economic independence and social acknowledgment. Her maternalism also earned her a certain disdain in the history of feminism. Recent works by scholars such as Ann Taylor Allen suggest revising this historiography. Key's legacy, like that of other maternalist feminists, consisted in liberating women from the legal yoke and the traditional ethic of sacrifice.

Anne-Françoise Praz

See also Childhood, Concept of; Dewey, John; Pestalozzi, Johann H.; Progressive Education and Its Critics; Rousseau, Jean-Jacques; Spencer, Herbert

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Character Development

Views of character development are shaped to some extent by the view that is held of the nature of human beings. If one considers humans to have a split self, as marked, for example, by the dichotomy between reason and desire or emotion, then character development is viewed as enhancing the capacities of reason to control the wayward passions, as Plato held. Some have the view that punishing unruly emotions and training reasoning with rules and willpower is the route to good character. But these are misleading beliefs; harsh approaches are more likely to mar character than form it. Although it is true that self-control is necessary for the ethical life, well-constructed emotions are actually foundational for adaptive responses. Under normal (optimal) conditions for development, there is no bifurcation in the self. When there is a bifurcation, it is a sign of pathology and impaired sociality, and it is a source of poor social decision making.

Emotions are evolved systems that codevelop with cognition in early life and (in evolutionary terms) increase human adaptation. But emotions must be thoughtfully cultivated, particularly at the beginning of life—humans are dynamic systems whose early beginnings have great import for later functioning, including ethical functioning. From the beginning of life, the child is ready for reciprocal companionship with the mother and other caregivers. The infant coconstructs a social world in which ideally she is practicing intersubjectivity and synchronous interaction and learning how to communicate emotions and thoughts in truthful ways and how to repair communication when it breaks down. These experiences build brain systems that underlie attachment and social skills, both of which facilitate ethical functioning later. A well-built human being has brain functions that have been shaped well by early experience, when the brain is most malleable and establishes homeostasis and thresholds for most body–brain systems.

We know much more from developmental science about the impact of early experience on character development (e.g., how cooperative, agreeable, and conscientious one is). As Kochanska (2002) has noted, warm, mutually responsive caregiving facilitates the development of attachment, self-regulation, empathy, and conscience in childhood, predicting prosocial behavior. But what other early experiences facilitate ethical character development?

Intensive parenting practices existed among the social animals that emerged more than 30 million years ago. Human evolution intensified parenting further, due to the relatively great immaturity of the human newborn. The evolved developmental niche (EDN) was a matchup between early caregiving practices and the maturational schedule of the needy infant (born at full-term with the brain at only 25% of an adult brain); parenting practices include things such as extensive breast-feeding, nearly constant touch, free play, social support, verbal interaction, and responsiveness to the cues of the child. Parenting that includes caregiving that matches up with infant

development encourages the development of healthy systems (e.g., genes that control anxiety are turned on; stress response systems work properly and do not become hyperactive; the vagus nerve, which underlies multiple physiological systems including social interaction, develops well). Each of the aforementioned practices has been linked to early moral development in young children (e.g., self-regulation, empathy, and conscience).

Moral Development

Early life care that matches the EDN ensures that cognition and emotion are well established and integrated. If this does not occur, the individual may have well-functioning analytical skills but diminished emotional and social capacities; or the individual may display poor thought processes and disordered emotions that mislead in action and decision making, harming self and others. In either case, the result can be a lack of coherence between emotion and cognition and/or deficient practical and ethical wisdom.

It is well known that prior actions narrow current choices. This is especially true in the case of care for young babies, who do not have the autonomy to make their own choices and design their own care and development and are thus at the mercy of the decisions made by their caregivers. Thus, denying babies the EDN can have long-term psycho-bio-social effects that influence subsequent ethical capacities; children who fail to develop secure attachment are more aggressive and less socially skilled, and those who display callousness and a lack of self-regulation are on a trajectory toward antisocial personality in adulthood.

Although some contend that ethical traits can be separated from other traits, or that character traits consistently adhere to a person across diverse situations, empirically it has been found that humans display varying ethical responses according to their degree of experience with a particular type of situation. Typically, the consistency in ethical response adheres to situations in a person-by-context interaction (e.g., Maria is always kind in family situations but cruel in work situations, and for Draco, the pattern is opposite).

Furthermore, although there has been much ado about a genetic cause for antisocial character, at present, there are no known genes that fully determine this. For example, the gene that regulates levels of monoamine oxidase A plays a role in development by altering the levels of serotonin and norepinephrine, decreasing the development of inhibitory control and increasing fear memory, which then leads to increased violence. Many people carry a variant of this gene that is linked to violence, but—crucially—they become violent as adults only if other environmental factors were present in childhood (e.g., abuse, neglect). Thus, experience, especially in early life, may play a codetermining role.

Humans have the potential for self-development throughout life. After childhood, the individual selects experiences and environments that influence how and what virtues develop. What one practices with attention and immersion molds desire and habitual response. To develop a virtuous character, as Aristotle pointed out, one needs extensive practice under the guidance of mentors until one is able to make virtuous choices about activities and friendships. In early life, mentors are one's parents and family. Thereafter, they include teachers and neighbors and opportunities for community involvement where ethical skills are fostered and practiced.

In modern societies, where both parents are working, many opportunities for ethical mentorship arise in schooling experiences. Ethical character is more likely to be fostered by classrooms and schools with particular characteristics including caring relationships between teachers and students, positive supportive climates that convey high expectations, opportunities for guided social skill development, and the practice of ethical action in the larger community.

What capacities needed for ethical behavior can be fostered in school settings? James Rest identified four psychologically driven components of ethical behavior, all of which are required for successful completion of an ethical action. Ethical sensitivity involves capacities for perception, imagination of possibility, and interpretation of ethically relevant events. Ethical judgment involves judging which action is the most ethical in the circumstance based on reasoning skills and code application. Ethical motivation or focus means that the individual prioritizes the ethical action over other interests and goals at the time and, with an ethical identity, does so routinely. Ethical implementation requires knowing what steps to take and persevering through obstacles until the ethical action is completed. There are multiple skills that underlie these processes that students can practice and hone toward expertise. A novice-to-expert pedagogy guided by a mentor (a) immerses students in examples and

opportunities to understand the skill in action, (b) offers chances to practice skills in multiple ways, (c) guides students in practicing real-life problem solving applying the skills, and (d) integrates procedures and skills across multiple contexts.

Character development continues across adulthood, promoted by continued brain maturation. In early adulthood, the prefrontal cortex reaches its pinnacle, enabling greater empathy and foresight, facilitating executive functions that are needed for further self-development. Brains continue to mature into middle age, leading to greater synthesizing capacities, insight, and wisdom.

Adults with a virtuous character exhibit a commitment to ongoing self-development. They use moral imagination to take multiple perspectives and foresee consequences. They coordinate multiple factors in moral deliberation, such as intuitions and principles. They demonstrate habituated moral concern and capacities for moral dialogue about collective interests and the regulation of moral institutions. They also have a sense of responsibility for living a sustainable life that takes into account the natural world and future generations.

Darcia Narvaez

See also Adolescent Development; Aristotle; Moral Development: Lawrence Kohlberg and Carol Gilligan; Moral Education

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Charter Schools

Charter schools in the United States (and some other countries—see below) seek to reform public education through a blend of elements found in public schools (universal access and public funding) and elements often associated with private schools (choice, autonomy, and flexibility). While the definition of charter schools varies somewhat by state, essentially they are nonsectarian public schools of choice that are free from many regulations that apply to traditional public schools. Over the past two decades, charter schools have remained one of the most widely discussed and debated topics when it comes to U.S. school reform. This entry discusses the policy objectives and theoretical arguments for charter schools, research on how they have performed in relation to their objectives, and the challenges and obstacles facing charter schools.

The "charter" agreement establishing each charter school is a performance contract that details, among other things, the school's mission, program, goals, and means of measuring success. Charters are usually granted for three to five years by an authorizer or sponsor (typically state or local school boards). Authorizers hold charter schools accountable for meeting their goals and objectives related to their mission and academic targets. Schools that do not meet their goals and objectives or do not abide by the terms of the contract can have their charter revoked or—when it is time for renewal—not renewed.

The charter school movement has grown rapidly from the first two charter schools opening in Minnesota in 1992 to more than 5,500 schools in 41 states and the District of Columbia as of 2012. Estimates of total student enrollments in 2012 are that close to two million students are enrolled in charter school within the United States; this accounts for nearly 5% of all public school enrollments. While the impact of charter schools appears minimal at the national level, a dozen cities or school districts

have seen the proportion of charter school students rise to capture more than a third of all public school students.

Beyond the United States, charter schools can be found in Canada and Puerto Rico. The charter school concept is also very similar to reforms initiated in other countries at approximately the same time. In the United Kingdom, there was the creation of grant-maintained schools, and in New Zealand and Sweden, independent schools were initiated. These various reforms are part of a larger set of national and international trends that have sought to restructure public education through decentralization, site-based management, privatization, and the use of market mechanisms. Proponents argued that restructuring public education would make it more efficient and responsive. One of the main reasons for the rapid and widespread growth of the charter movement in the 1990s was that it provided a vehicle to pursue many or most of the goals related to school restructuring. Another reason for the growth of charter schools is that this reform has been championed by a wide range of supporters, from those who saw these schools as a stepping stone to vouchers to those who saw charter schools as a compromise that would avoid vouchers and widespread privatization.

Policy Objectives and Theoretical Arguments

Charter school reforms involve a set of policy changes—brought about mostly through changes in state law—that alters the legal, political, and economic environment in which schools operate. The structural changes provide an opportunity for charter schools to experiment. Thus, the charter concept is rather different from other education reforms in that it does not prescribe specific interventions; rather, it was designed to change the governance and conditions under which schools develop and implement educational interventions.

At the heart of the charter concept lies a bargain. Charter schools will receive enhanced autonomy over curriculum, instruction, and operations, but in exchange, they must agree to be held more accountable for results than other public schools. This new system of accountability holds charter schools accountable for outcomes—many of them articulated in the charter contract—and then employs deregulation to allow them to choose their own means for arriving at those goals. If charter schools do not live up to their stated goals, they can have their charter revoked or not renewed when it expires. This type of accountability is referred to as performance accountability. Charter schools also are steered by market accountability since these are schools of choice and money follows the students; therefore, charter schools that fail to attract and retain students will, in theory, go out of business. Yet closure rates are relatively low, and most charter schools that close do so because of financial mismanagement rather than performance or market accountability. The burden of producing evidence regarding charter school success has shifted to external evaluators or authorizers. Charter schools—on the whole—have not been proactive with regard to accountability: Instead of being "evaluating schools" that would take responsibility for evaluation and demonstrating success, they have become "evaluated" schools.

A common policy objective seen in state charter school laws is that charter schools would empower local actors and communities to start their own schools. In the 1990s, local groups and individuals were most often involved in starting new charter schools, but since 2000, the trend has been for outsiders, particularly private education management organizations (EMOs), to initiate the process of opening new charter schools, which are then steered from often distant corporate headquarters.

Another policy objective often found in charter school laws is that these new schools would create new opportunities for school choice. With few exceptions, they are open to students from any district or locale. Theoretical arguments suggest that school choice will lead to sorting by preferences, which will reduce the amount of time schools spend resolving conflicts among school stakeholders, leaving them more time and energy to devote to developing and implementing educational programs. Related to this is the belief that the very act of choice will leave students, parents, and teachers disposed to work harder to support the schools they have chosen.

As commonly articulated in charter school laws, these new schools would have open access to all students. Evidence, however, suggests that charters attract and enroll groups sorted by race, class, ability, and language. In terms of ethnic composition and the proportion of low-income students, three quarters of existing charter schools have student populations that differ from those of local school districts by more than 10 percentage points. In terms of student composition based on students with

disabilities or students classified as English-language learners, the findings show substantially larger differences, with charters serving far fewer of these students than district schools.

A common policy objective for charter schools is that they enhance opportunities for parental involvement. Parents who choose schools can be expected to be more engaged than those who do not. Beyond that, proponents of the charter concept contend that such involvement is a valuable resource that will ultimately lead to higher student achievement and other positive outcomes. The research evidence to date indicates that charter schools have been able to enhance parental involvement. Evidence suggests that parent satisfaction has been one of the strengths of charter schools. Most of this evidence, however, is based on surveys of parents whose children remain in charter schools and excludes parents whose children have left these schools. Nevertheless, the fact that charter schools are growing in size and number is a strong indication of the demand that still exists for these schools.

Another policy objective linked with charter schools is enhanced professional autonomy and opportunities for professional development for teachers. Charter schools are potentially schools of choice for teachers as well as for parents and students. The charter school concept suggests that allowing teachers to choose schools with educational missions and approaches that closely match their own beliefs and interests promotes a shared professional culture and higher levels of professional autonomy, which should ultimately lead to improved levels of student achievement. Although some charter schools have created and fostered professional opportunities for teachers, the overall evidence on this objective does not suggest that this has been realized. High levels of teacher attrition indicate that teachers are not finding suitable professional learning communities in charter schools. High levels of teacher attrition may, in part, be influenced by the fact that charter school teachers tend to be younger, work longer hours, and receive less pay than teachers in regular public schools.

Advocates believe that charter schools can improve all public schools by sharing innovations and/or through the threat of competition. It is argued that without competition, traditional public schools will not strive to improve. Opponents of charter schools argue that charter schools can hurt traditional public schools by creaming off the less-costly-to-educate students and by forcing limited resources to be split across two parallel school systems. Proponents argued that charter schools could function as public education's research and development sector, and their benefits would extend to traditional public schools that adopted and emulated their innovations. Greater emphasis on innovations was visible in the 1990s, but over time, research indicates, charter schools are not more likely than traditional public schools to innovate.

Some charter school advocates see these schools as laboratories for experiments in the use of privatized services. Proponents argue that increased school choice and privatization will bring a much needed dose of entrepreneurial spirit and a competitive ethos to public education. According to these advocates, schools will run more efficiently by contracting out parts of or all the services they provide. Charter schools, as it turns out, have provided a quick and easy route for privatization as many states allow private schools to convert to public charter schools and most states allow charter schools to contract all or part of their services to private EMOs. While some states have no charter schools operated by EMOs, others, such as Michigan, have more than 80% of their schools operated by EMOs. In 2012, close to 44% of all public charter school students were enrolled in privately managed charter schools. The involvement of EMOs, and the organization of charter schools into networks or franchises headed by an EMO, is counter to one of the early ideals of the charter school movement, namely, that charter schools would be small and locally run.

An argument in favor of charter schools is that they would be high-performing schools where children would learn more. Notwithstanding the pressure for performance on state assessments, a growing body of evidence indicates that charter schools generally perform similarly to demographically matched traditional public schools on standardized tests. States that have better results tend to have fewer for-profit EMO-operated schools, they tend to have fewer charter schools in operation, and they close more poorly performing charter schools.

The research base to support most of these theoretical arguments is largely borrowed from economics and political science; to a large extent, they remain unproven within the education sector. While the research base is still somewhat limited, over time more sound evaluation and research have

replaced the rhetorical or theoretical pieces that earlier dominated the literature on charter schools.

Challenges and Obstacles

Among the biggest challenges that charter schools face are the following:

1. High attrition rates among teachers and administrators
2. Rapid growth of schools in some states, which permitted some less well-prepared applicant groups to open schools
3. Access to school buildings, or at least to low-interest bonds to secure facilities
4. Ability of the schools to direct public resources to instructional costs due to high fees and expenses for the private EMOs
5. Ability to comply with demands for transparency, which is being affected by private management
6. Increasingly polarized support

The charter school ideal has been altered over time, and many agree that the charter school reforms seen today have strayed from the original ideal. There are a number of factors that explain the shift over time, including insufficient or ineffective oversight, insufficient autonomy granted to these schools, insufficient funding to develop new and innovative practices, and increasing involvement by private EMOs that open and drive the growth of these reforms.

Although the purpose and design of charter schools have changed over time, and although charter schools still face considerable obstacles and challenges today, both opponents and proponents recognize that charter schools are now an integral part of our school systems.

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See also Privatization; School Choice

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Childhood, Concept of

The rationale for any concept of childhood lies, of course, in the idea that childhood is something distinctively different and separate from its Other, which most obviously is adulthood. *Childhood* and *adulthood* have long since formed a contrastive pair, similar to the notion of *young*, which is unthinkable apart from *old*. From the philosophers of Hellenic antiquity to modern psychology, education, and the social sciences, confidence in this distinction has held sway, and across centuries, various *conceptions* of childhood have been produced based on particular views about childhood's difference from adulthood. These conceptions, especially the views on childhood created in modern developmental psychology, continue to influence educational thinking and pedagogical practice in both educational and other institutions involved in things such as social work, health care, and jurisdiction. To a great extent, however, sociologists and anthropologists have relied on dominant psychological notions of childhood. Only fairly recently, in tandem with the increasing interest in the social conditions and the rights of children worldwide, has there been critique of the dominant understanding, followed by reconceptualization.

Childhood is an ambiguous concept. While obviously there is an important difference between *children* and *childhood*, surprisingly often these two are conflated. The belief seems to be that a concept of childhood is created by answering the question What is the child? The more central concept of the two is *the child*, and *childhood* seems to have taken meaning on the basis of particular understandings of this concept. Most definitions of childhood operate in this way, in both scholarly literature and our common everyday knowledge. The Oxford English Dictionary, for instance, defines childhood as "the state or stage of life of a child; the time during which one is a child." Only fairly recently, in the multidisciplinary ("new") field of childhood studies, has a clear conceptual distinction between children and childhood been introduced.

The following sections introduce five ways of conceptualizing childhood as they have been developed and used in the social science field: (1) the

stage concept, (2) the developmental concept, (3) the socialization concept, (4) the everyday-world concept, and (5) the structural concept.

The Stage Concept of Childhood

Earliest Western notions of childhood were based on schematic divisions of human life into a number of "Ages of Life," from birth to death. According to Aristotle, for instance, all living things traverse an arc of three ages: (1) *augmentum*, (2) *status*, and (3) *decrementum*; Shakespeare (in *As You Like It*, 1623) divided the life cycle into seven stages.

The *stage* notion of human life, ingrained in traditional wisdom, has long been the prototypical form of thinking about childhood. Both John Locke and Jean-Jacques Rousseau relied on the stage notion of childhood, although in opposing ways. For Locke, the child was a blank slate (*tabula rasa*), and childhood was the coming to reason of this child as perception and experience fill his mind (*An Essay Concerning Human Understanding*, 1690). Rousseau, in contrast, proposed (*Émile*, 1762) an "authentic" child that has an innate capacity for reason. For both thinkers, childhood was to be seen as qualitatively different from other stages in the life cycle of the human being, and both also gave instruction on how the child should be educated.

Childhood became the object of scientific investigations in the second half of the 19th century. Child study was initially motivated by the quest to discover the origins and specificities of the mind of the human *adult*. The theory of the time was *cultural recapitulation*, originally proposed by Ernst Haeckel, the idea that in the course of his development over a lifetime (ontogeny) the individual repeats the patterns and stages exhibited by the evolution of the species ("ontogeny recapitulates phylogeny"). Accordingly, because children, relative to the adult, were seen as intellectually immature, incomplete, and lacking, it was believed that by studying the child the necessary steps for subsequent development toward full maturity (adulthood) could be revealed. Charles Darwin (himself not an advocate of the recapitulation thesis) was one of the first to write systematic notes on the changes that he observed in his own son (*Biographical Sketch of an Infant*, 1877), his interest being in the relative contributions of a child's inherited endowment and the child's environmental experience.

In time, the recapitulation theory was abandoned, but the idea of "progress," or "development," taking place in the lifetime of the individual, and especially during the time of childhood, was retained, and it came to form the basis of the emerging "child sciences"—first pediatrics and child psychiatry, and later developmental psychology. The specific idea of childhood *development* has had a strong impact also on other social science disciplines inasmuch as they became concerned about children and childhood.

The Developmental Concept of Childhood

The dominant notion of childhood in the late 18th century and since then is that of being in the state of development toward adulthood. The concept of *development* was the foundational basis for the new discipline of developmental psychology. It was understood to be not just a neutral term for the biological and psychological changes that occur in human beings over time. Besides constant change, development implies a particular *direction*, *improvement* (progress), and *goal* (or end point)—of change. The goal of childhood in this conceptualization is to reach mature, autonomous adulthood; to be a child is to be not mature, not yet mature, and in the process of *becoming* mature. Thus, developmental psychology sought to identify orderly sequences of progressive change in the child as he is "growing up," aiming at discovering universal, context-independent stages, and phases of development along various dimensions. The practical goal was to establish chronological (age-related) group norms and milestones of progress for the journey of the young through this childhood phase.

Sigmund Freud's model of psychosexual development, Jean Piaget's model of cognitive development, and Lawrence Kohlberg's model of moral development are based on the developmental concept of childhood: In their theories, they have posited universal stage progressions from a primal, egocentric child to an autonomous adult.

In the most recent three to four decades, the *universalist* position on child development has been firmly contested by arguing that the child's development is inextricably bound up with his sociocultural conditions and changes: Development emanates from the interplay between the child, his immediate environment, and the larger contexts in which the child and the setting are embedded. Any valid concept of child development cannot be but a *contextual* one. Consequently, the normalizing elements of the universalist position ("normal" development and its milestones) have to be questioned.

Contextualist conceptions of child development are being developed, especially by scholars related to the cultural-historical school and the Vygotskian tradition. However, the debate on what drives children's development—the nature/nurture debate—has not been settled within developmental psychology.

A second strand of critique has been concerned with the idea of development itself, not just the context in which development occurs. Based on new knowledge about the variability of children's lives globally and as revealed in historical studies of childhood, and influenced as well by postmodern epistemologies, the argument has gained favor that development and childhood are social and cultural "inventions" or "constructions," and Western constructions at that. This antidevelopmental and antiprogressivist critique of the developmentalism deeply ingrained in the psychology of childhood has yet to produce its own (postdevelopmental?) alternative to the dominant conceptions of childhood.

Childhood as Socialization

Socialization has existed in sociology as the counterpart of the concept of development since the early days of the discipline. Just as the developmental concept depicts the child as not mature, not yet mature, and in the process of *becoming* mature (adult), the concept of socialization retains all these characteristics. The essential difference between the two notions is the greater focus of the latter on the societal (social, cultural) factors that make a child's development (socialization) take place. Similar thinking also has been prevalent in anthropology, where *enculturation* is the corresponding term.

The French early-20th-century sociologist Émile Durkheim is considered the founder of the idea of socialization. Generally, sociology has been noted for its marginal interest in children and childhood, for as Chris Jenks (1982) writes, "social theorists have systematically endeavoured to constitute a view of the child that is compatible with their particular visions of social life" (p. 9). This holds also for Durkheim—the concept of socialization emerged as a corollary of his theory of (adult) society. According to Durkheim (1911/1956), *socialization* refers to the social forces that make social life possible by drawing people together into a community, and it is specifically exercised (especially through education) on "those that are not ready for social life" (p. 71). The constraining effect of socialization on individuals takes place through their "internalization" of social "facts" that originally are external to and independent of them. Thus, in Durkheim's thinking, there is a psychological aspect (internalization) to the social process of socialization.

In the 1940s and 1950s, the American social theorist Talcott Parsons (1951) adopted the notion of socialization to account for the mechanisms by which societies deal with "what has sometimes been called the 'barbarian invasion' of the stream of new born infants" (p. 208). In his systemic and functionalist theory of social life, children are conceived as being a threat to society, and they must therefore be appropriated and shaped to fit in. In this case, the socialization of children is effected by laying down in childhood the major value orientation patterns of society.

Critiques of overly functionalist and deterministic conceptions of childhood socialization developed since the 1970s, particularly in North American social psychology. New approaches to socialization were inspired by interpretive approaches (symbolic interactionism, ethnomethodology) that involved seeing socialization as a complicated process of interaction. In contrast to earlier conceptions, children were no longer seen as passive targets of "agents" of socialization (e.g., family, school) but, rather, were viewed as active partners.

The Everyday-World Concept of Childhood

Still, until the 1980s, "socialization" functioned as the main conceptual tool for social scientists to address children and childhood. Similar to the anti- and postdevelopmentalist trends that challenged the progressivist and universalist notions in developmental psychology, within sociology a critique on socialization has grown since the 1980s and has led to theoretical reconceptualization.

The "rediscovery of childhood in sociology" (Corsaro, 2005) was based not only on the increasing critique of the individualistic and forward-looking connotation of dominant concepts of socialization. There was also a growing confidence in the innovative and creative aspects of children's participation in social life, confirmed in new studies on the competences of infants and young children. Building on earlier phenomenological thinking about children's role in everyday interaction, and increasingly fed by postpositivist epistemologies, especially social constructionism, and fueled by new historical and anthropological knowledge about the enormous variability of children's lives across time

and place, the new conceptualization of childhood was in terms of a *social construction*.

With confidence in the active participation of children in the construction of their everyday lives, the constructionist concept of childhood took its meaning to refer to children's active everyday lives in all their dimensions: their activities, interactions, experiences, beliefs, and so on. Seen to be involved in the daily "construction" of their own and other people's everyday relationships and life trajectories, children as "social actors" became the new conceptualization of childhood. This is also the key orientation of the "new paradigm for the sociology of childhood" proposed in the beginning of the 1990s (James & Prout, 1997). Conceptualizing every child now as a social actor implied, moreover, that each child has his or her own unique childhood; thus, there is a plurality of childhoods for researchers to study.

The Structural Concept of Childhood

A second conception of childhood has been developed within the ("new") sociology of childhood: childhood conceptualized as a structurally formed (or "constructed") social space for children to inhabit (Qvortrup, Bardy, Sgritta, & Wintersberger, 1994). This conception implies the existence in a society of a relatively permanent social category ("children"), and a social and political status that goes with occupancy of the culturally, politically, economically constructed childhood space, in whatever way the category is defined in a particular society.

The structural concept of childhood thus indicates that childhood is a constant feature of the structure of society, comparable with, for example, social class or gender, with which it necessarily intersects. For the inhabitants of the childhood space (i.e., children), any historical childhood is, of course, temporary, for children enter the space at birth (if not earlier) and grow out of it as they enter the next category, but childhood remains.

Hence, childhood as a structural category is also a *generational* category (and concept) that can exist, as both a concept and a social space, only in relation to other generational categories, most obviously the category of adulthood. Thus, both childhood and adulthood, as structural categories, are usefully conceptualized as sets of interrelated social, cultural, political, and economic relations (Alanen & Mayall, 2001; Qvortrup et al., 1994). The usefulness of this conceptualization is in its assistance to researchers of educational issues as they extend their focus beyond psychology and sociology to cultural, political, and economic studies.

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See also *Century of the Child, The*: Ellen Key; Children's Rights; Locke, John; Piaget, Jean; Psychoanalytically Oriented Theories of Child Development; Recapitulation, Theory of; Rights: Children, Parents, and Community; Rousseau, Jean-Jacques; Social Constructionism

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Children's Rights

Whether children should have rights, what it means to attribute rights to them, and which rights—if any—are appropriate for children are contentious questions among philosophers who write on this topic. An easy response is that children have their rights specified in the United Nations Convention on

the Rights of the Child (UNCRC), on the grounds presented in the convention and that a child is any person younger than 18 years, except where national law stipulates otherwise. This easy response sidesteps persistent lines of debate about matters such as the purpose and meaning of rights, the moral status of children, and the relationship between *legal* (or *positive*) rights and *moral* (or *fundamental*) rights. Children do have legal rights; they have them by virtue of international law and, in many countries, through national legislation and jurisprudence. The question at issue is whether, when, and why it is appropriate to attribute fundamental human rights to children. This entry sketches a brief history of children's rights and presents some central concepts and lines of dispute about the existence, content, and scope of children's fundamental rights.

Historical Overview

Although the notion of children's rights appeared as early as 1796 with the publication of Thomas Spence's *The Rights of Infants*, only in the late 19th and early 20th centuries did children come to be widely regarded as putative rights bearers. This change accompanied a gradual change in children's moral status from property to persons. Protection rights, the first category of children's rights to emerge, had their roots in the child-saving practices toward the end of the 19th century, when philanthropic and state agencies in Europe and North America began to intervene in family life to ensure the health and welfare of children. Early in the 20th century, partly in response to these social reform movements, children were accorded the status of future persons in need of protection and nurturance. The Geneva Declaration of the Rights of the Child of 1924 epitomized this approach, as did the United Nations Declaration of the Rights of the Child in 1959. Neither had legal force, and both were paternalistic in assuming that parents or other authority figures best determine children's present and future interests.

In the second half of the 20th century, as part of a global movement for the extension of human rights, children were accorded the status of existing persons with qualified rights to self-determination. The UNCRC, approved by the United Nations General Assembly in 1989, is a legally binding international treaty that recognizes children's self-determination rights in relation to their evolving capacities, as well as their rights to protection and nurturance.

Categorizing Rights

Philosophers typically distinguish two categories of rights: (1) a*gency rights* (also called autonomy or self-determination rights) and (2) *welfare rights* (also called social rights). Agency rights involve their bearers in making reasoned choices about how to act; welfare rights entitle their bearers to crucial sources of well-being, such as health care, shelter, and education. A different categorization, used in histories of human rights and in international law, distinguishes between *civil*, *political*, *and social rights*. On further analysis, these three categories can be reduced to two. Civil and political rights safeguard choice and are thus agency rights; social rights safeguard conditions for well-being and are thus welfare rights.

Another categorization, used solely with respect to children, distinguishes *provision*, *protection*, *and participation* rights. Among the proponents of children's rights, one criticism of this categorization is that it involves a category mistake arising from a misreading of the UNCRC and its supporting documents: "provision," "protection," and "participation" refer not to kinds of rights but to central principles of the UNCRC and to the articles that give expression to them. Another criticism presupposes that children's rights are a recent step in the expansion of the scope of human rights. If so, then, it is inconsistent to use one set of terms for children and another for adults. Also, on the face of it, the "3-P" categorization suggests that children's rights are not human rights and, thus, that children do not count as humans in the relevant respects.

How different theorists categorize rights depends on their purpose in doing so. For example, a distinction between agency and welfare rights may serve as a first move in defending the claim that while children do have some rights, they do not have the same rights as adults. Conceptualizing children's rights as human rights enables a comparison of the status and history of children's rights against the rights of other people and leads to the observation that women and Black people were once also denied rights, on grounds similar to those used to deny children moral status as rights bearers.

Should Children Have Rights?

Two opposing conceptions of rights lie at the heart of philosophical disputes about children's rights. On the one hand, rights serve to protect the *choices* of rights bearers; on the other, rights serve to protect important *interests*. The *choice* (or will) theory underpins

much of the skepticism about the attribution of moral rights to children. Although the *interest* theory provides a stronger foundation for children's rights, it need not imply that children should have equal rights with adults. It can instead support the conclusion that children should have rights appropriate to their evolving capacities and to their status as children.

Autonomy, agency, and capacity are pivotal notions in disputes about children's rights, as illustrated in two contrasting images of childhood: the "competent or autonomous child" and the "incompetent or dependent child." Both images figure in the UNCRC, with the dependent child as the subject of so-called protection rights and the autonomous child as the bearer of so-called participation rights. They figure, too, in controversies about the scope and moral weight of children's rights.

Skeptical Views

Several different lines of argument support the view that it is wrong to ascribe rights to children or, more modestly, that children cannot be bearers of agency rights. Three will be outlined here. Call them the arguments *from capacity*, *from the nature of childhood*, and *to consequences*.

The argument from capacity assumes that people cannot and should not have moral rights unless they have the requisite capacities. Capacity is a central idea in the choice theory of rights, which assumes that persons are rational, moral agents whose dignity and equality rest in their freedom to act for reasons. From this perspective, children cannot possess rights, as they do not yet have the cognitive and volitional abilities required for making and acting on rational choices. Capacity is at issue in a second way. Regardless of whether rights are seen as protecting choice or protecting interests, the content of many rights implies specific capacities. For example, a being that is incapable of speech cannot meaningfully be said to have a right to free speech. Self-determination rights depend on capacity; welfare rights arguably do not. Skeptics about children's rights argue that children—or at least young children—lack crucial abilities, such as knowing how to obtain relevant information and handle it systematically, appreciating the significance and consequences of different options, and being able to act in light of consistent values and stable beliefs. On the choice theory, arguments from capacity deny that children can be rights holders at all; on the interest theory, arguments from capacity grant that children have welfare rights, but they disqualify children from holding the same agency rights as adults.

Arguments from the nature of childhood come in several versions, only one of which will be considered here. In a much cited article, Onora O'Neill contends that an understanding of what adults morally owe to children is properly grounded not in rights but in obligations. Two different kinds of obligation—perfect and imperfect—pertain to the relationship of adults to children. Perfect obligations have corresponding rights; imperfect obligations do not. A *perfect obligation* completely specifies to whom the obligation is owed and what is owed to them. For example, a *universal perfect obligation* to all children requires adults to refrain from abusing children. A *specific perfect obligation* is one owed to specified children by specified agents, such as social workers who have undertaken to care for specified children. *Imperfect obligations* require us to do or refrain from doing some action for unspecified others but not for all others. An example is the obligation for adults to be kind and caring in dealing with children. While this obligation may be binding on all adults, it cannot be one that we owe to all children because what is involved in meeting the obligation depends on the circumstances. A *fundamental imperfect obligation* leaves open both how it is to be enacted and for whom. It thus cannot be correlated with a corresponding right. According to O'Neill, any view that takes rights as the moral foundation for what is owed to children fails to capture the imperfect duties of care and concern that are necessary for protecting and valuing children's lives. Another version of the argument from the nature of childhood proposes an ethic of care, not rights, as a better way of meeting children's needs.

The argument to consequences considers what would follow from granting rights to children. It rests on the idea that to pursue their goals and lead valuable lives, adults must have certain character traits and capacities, which are acquired during childhood through proper upbringing and discipline. Granting children freedom to exercise their rights undermines these preconditions for their having fulfilling adult lives. Such license, it is argued, has adverse consequences not only for the children themselves and for the adults they will become but also for the society of which they are members.

Arguments for Children's Rights

Children's vulnerability to harm and neglect and their dependency on adults for care have a moral

urgency that may seem best addressed by ascribing rights to children. But an appeal to children's high vulnerability and dependency could as well be grounds for an ethics of care. A more forceful argument is that human rights are universal and apply to all humans regardless of race, gender, age, or ability, even though historically, women and Black people, and now children, have had to struggle for recognition as rights bearers and persons. This view takes respect for human dignity as the central idea in the attribution of rights; to deny fundamental rights to a person casts doubt not only on her dignity but also on her independent moral standing. However, even if respect for human dignity is taken as the sole warrant for children's rights, the skeptical arguments still require a response.

Rebuttals of the argument from capacity can deny that capacity is a qualifying condition for rights or may grant that it is but raise questions about the meaning, reach, and acquisition of capacity. Those who deny capacity as a qualifying condition commonly claim that humanity is all that is required for moral recognition as a rights bearer. Another line of argument rejects the centrality of capacity in rights talk on the grounds that it protects powerful elites and so reinforces existing social hierarchies.

Suppose, however, that a proponent of children's rights acknowledges, as many do, that some kinds of rights depend on those capacities involved in making choices and acting on them, then the argument from capacity is not yet answered. One answer grants that children, especially young children, do not have the necessary capacities for self-determination rights, but it suggests that they will acquire capacity only through the (appropriately guided) exercise of their rights. To deny children their rights, then, is to keep children in a state of dependence and hinder their development into mature adults able to exercise choice responsibly. A second answer is that children, even very young infants, do have the capacity for choice, where this is understood as being able to express preferences. The skeptic can concede that even infants express preferences but argue that one cannot be a rights holder without an ability to understand and appreciate the significance of the options facing one. Of course, many adults do not meet this more demanding standard of capacity, and yet we do not, on these grounds, deny that they have self-determination rights.

Capacity is not an all-or-nothing affair, entirely absent or fully present. The notion of evolving capacities underpins the UNCRC and is presupposed by gradualist conceptions of children's rights. Gradualism, in its various forms, acknowledges the child both as a person now and as the future person she will become. One form of gradualism suggests that children move progressively from a situation in which their rights primarily protect their interests to one in which their rights primarily protect their choices. It is consistent with a gradualist account that children be given opportunities to exercise choice and participate in decisions affecting them, in ways appropriate to their current levels of maturity and capacity. Education has an important role to play here. On a gradualist account, while children and adults have some rights in common, there are important differences in kind between the rights of children and those of adults.

A rebuttal of the argument from the nature of childhood concedes the importance of imperfect obligations in the relationship between adults and children, particularly parents and their children, but denies that this rules out children's rights. Care and rights are not in competition. Seeing children as rights holders shapes and constrains our actions regarding them and in familial relationships helps form appropriate enactments of love and care.

Rebuttals of the argument to consequences may grant that to pursue their goals and lead valuable lives, adults must have certain dispositions and capacities, which are acquired during childhood through proper nurture, support, and discipline. The view that children's rights undermine these conditions is open to three criticisms: (1) it applies only to agency or self-determination rights, not to welfare rights; (2) it conflates children's rights with license for children to do as they please; and (3) it fails to recognize that the enabling dispositions and required capacities may be acquired through children's exercise of circumscribed agency rights.

On balance, while choice theory captures the sorts of rights that autonomous agents have, interest theory is equally coherent and justifies the attribution of rights to children. Acknowledging children as rights bearers draws attention to their independent moral standing and human dignity.

Shirley Pendlebury

See also Autonomy; Childhood, Concept of; Moral Development: Lawrence Kohlberg and Carol Gilligan; Noddings, Nel; Right to an Education; Rights: Children, Parents, and Community

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Chinese Philosophical Traditions and Education

See Confucius

Chomsky, Noam

Avram Noam Chomsky (1928–) is a theoretical linguist, philosopher, and social critic. His 1957 book, *Syntactic Structures*, proposed a theory of grammar that led to the transformation of the field of linguistics and has also been an important stimulus in the areas of education concerned with language acquisition. However, he is more popularly known as a political commentator and dissident who constructs detailed, evidence-driven critiques of the exercise of power by political elites, the mass media, corporate capitalism, and the state, often focusing on the foreign policy of the United States. This aspect of his work also has important implications for the curriculum and conduct of education. In sum, as a result of the range and influence of his thought, Chomsky has been described as the most important intellectual alive today. This entry describes the essence of both prongs of his work and its implications for education.

Chomsky's parents were immigrants from Russia and middle-class Hebrew schoolteachers. His father was also a scholar of medieval Hebrew. Chomsky attended an experimental elementary school, Oak Lane Country Day School, whose founders were involved in the progressive education movement and were influenced by the educational philosophy of John Dewey. As a young man, Chomsky was involved in a branch of the Zionist movement focused on socialist binationalism and Arab–Jewish cooperation.

He attended the University of Pennsylvania, where he received his BA (1949), MA (1951), and PhD (1955). He joined the faculty of the Massachusetts Institute of Technology in 1955 and was appointed as full-time professor in 1965. During the course of a distinguished career, he has received numerous honors for his scholarship, including more than 25 honorary degrees.

Chomsky's early research in linguistics sparked a paradigmatic revolution in the field. Structural linguistics, which originated in the early 20th century, was a classificatory science focused on organizing the basic elements of human languages. Research methods in the field were based on the assumptions of philosophical positivism. Structural linguistics treated language as a static system of interconnected units; the basic approach was to examine a selected "corpus of utterances" in an attempt to classify the elements of the corpus into different linguistic levels (e.g., phonemes, morphemes, etc.). Chomsky argued that while this approach was adequate for phonology and morphology, it was inadequate for explaining sentences (syntax). His critiques of structural linguistics led to the development of generative grammar, which shifted the subject matter of the field to speakers' linguistic competence or their knowledge of how to create and understand sentences. As a result, the goal of linguistics was transformed from the classification of language elements to the creation of a set of rules that could generate all sentences of a language and ultimately explain all linguistic relationships between the sound system and the meaning system of a language.

Chomsky's theories derive from two fundamental observations of language: (1) grammar describes the basic knowledge shared by all speakers of a language and (2) the human use of language is fundamentally creative. He argues that the properties of generative grammar come from an "innate" universal grammar; that is, all languages have the same basic principles and are genetically determined. Language acquisition then is not a matter of habit or sensory experience (e.g., children imitating sounds, repeating words, and responding to positive and negative reinforcement, as behaviorist theories would have it). Rather, in Chomsky's view, humans have an instinctive mental capacity that enables them to learn and

produce language without being taught. From this theoretical vantage point, in 1959, Chomsky wrote an important critical review—widely regarded as devastating—of the behaviorist B. F. Skinner's theory of language acquisition.

Chomsky's political views fall into the broad category of anarchism, which opposes authority, coercion, or hierarchical organization in human relations. Chomsky has described himself as a libertarian socialist. He believes that there is a fundamental need in human nature for creative work and inquiry that are not arbitrarily limited by coercive institutions. His vision of a social order that would maximize this fundamental human characteristic is a federated, decentralized system of free associations that incorporate economic and social institutions, or what has been called anarcho-syndicalism. His political agenda might be described as seeking out forms of authority and domination and challenging their legitimacy. Chomsky has stated that beyond some tenuous points of contact, he sees no intellectually convincing connections between his anarchist political convictions and his scholarship on human intelligence.

Chomsky the political dissident first came into the public eye when he spoke at a protest against the Vietnam War on the Boston Common in October 1965. But it was his 1967 article "The Responsibility of Intellectuals," originally published in *The New York Review of Books*, that established him as the leading American intellectual in the antiwar movement. His book *American Power and the New Mandarins* (Chomsky, 1969) was one of the earliest and most significant works of social and political thought to emerge from the Vietnam War era. His antiwar activism resulted in several arrests and associated him with the New Left Movement, of which he was generally critical. The former U.S. president Richard Nixon included Chomsky on his infamous "Enemies List."

In the 1980s, Chomsky began to examine and write about the media and democracy. *Manufacturing Consent* (written with Edward Herman) is a political economy of the mass media that proposes a "propaganda model" to describe how money and power filter the news in ways that marginalize dissent and allow government and corporate capitalist interests to propagandize the public. His book *Necessary Illusions: Thought Control in Democratic Societies* deconstructs representative democracy, illustrating how capitalist elites control the state while the public merely observes. In practice, democracy becomes a system of elite decision making and public ratification, or what he calls "spectator democracy." Correspondingly, the dominant interests view popular involvement in public policymaking as a threat. Chomsky argues that indoctrination of the political class and diversion of the masses make up the essence of democracy as practiced in the United States.

Based on his political philosophy and his assessments of the mass media and government, it is not surprising that Chomsky has described education, or more particularly schooling, as a system of imposed ignorance. He argues that, like the mass media, schools succeed in domesticating youth by operating within a propaganda framework that has the effect of distorting or suppressing unwanted ideas and information and creating "necessary illusions" and "emotionally potent oversimplifications" to keep people isolated from important issues. Questions that are offensive or embarrassing to the doctrinal systems are ignored. Information that is inconvenient is suppressed.

Chomsky has argued that if schools were serving public (as opposed to private) interests, they would be providing students with techniques of intellectual self-defense so that they could protect themselves from manipulation and control. Chomsky has recalled his own early education in a progressive school as an example of this—a school where children were encouraged to study and investigate as a process of discovering the truth for themselves.

E. Wayne Ross

See also Apple, Michael; Behaviorism; Cognitive Revolution and Information Processing Perspectives; Democratic Theory of Education; Indoctrination; Language Acquisition, Theories of; Progressive Education and Its Critics

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Church and State

The relationship of church and state—or, more broadly, religion and state—is crucial to educational theory and philosophy in light of the profound impact that religious freedom can have on the structure and content of education, including civic education, in a particular society.

There is no fixed or natural relation between religion and state. Globally, religion and state are related in diverse and complicated ways that produce widely divergent levels of religious freedom. States that establish (i.e., legally promote, protect, or favor) one or more religions may strictly punish deviance from the state religion (as in Saudi Arabia) or they may protect the religious freedom of all citizens (as in the United Kingdom). Some states without established religions nevertheless place tight restrictions on religious practices (as in China), while others allow a much wider array of religious liberties (as in the United States). In most cases, civic and/or religious education in state schools is designed to perpetuate the existing relationship of religion and state, whatever that relationship may be.

This entry focuses on the United States, where the legal, philosophical, and cultural contours of church–state relations are primarily guided by three core principles in the federal constitution: (1) nonestablishment, (2) free exercise, and (3) equal protection. After a brief prelude in constitutional history, these core principles are examined in light of their legal application to public and private education.

Constitutional Development

During the tumultuous 15 years after declaring independence in 1776, Americans fought a revolutionary war (1776–1783), ratified 13 state constitutions, and created two national governments, the first of which, outlined in the Articles of Confederation, lasted only eight years (1781–1789). Constant debate during this period about the form of government best suited to a free people eventually led to the ratification of the federal Constitution (1789) and Bill of Rights (1791), which set in motion the first secular nation-state, a country without an established religion.

Though the Declaration of Independence, written primarily by Thomas Jefferson, offers no legal framework or systematic theory of church and state, it nonetheless posits a particular relationship between religion and government. According to this view, "unalienable" human rights are "endowed by their Creator," but governments are nonetheless human institutions whose authority and power are derived from "the consent of the governed" themselves, not from God. The latter concept is known as "popular sovereignty," which President Abraham Lincoln would famously describe nearly 100 years later as "government of the people, by the people and for the people."

If the Declaration promises liberal democracy and popular sovereignty, the Constitution and its Bill of Rights attempt to actualize that promise. Essential to that promise is the First Amendment, which reads in its entirety, "Congress shall make no law respecting an establishment of religion, nor prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press; or the right of the people peaceably to assemble, and to petition the Government for a redress of grievances." The first 16 words, known as the religion clauses, provided the legal framework for religious freedom in the United States by preventing the new federal government from establishing a national religion and by protecting the right of citizens to follow any religion they chose (or none at all).

Several U.S. states retained their religious establishments well into the 19th century; Massachusetts was the last to disestablish, in 1833. This was possible because, on its face, the First Amendment merely bans Congress from making a law "respecting an establishment of religion," and so on; states were free to enhance or abridge the rights named in the Bill of Rights because American citizenship was granted through the states, not the federal government. The Fourteenth Amendment, ratified in 1868, federalized citizenship to grant civil and political rights to former slaves. Since the 1940s, the U.S. Supreme Court has interpreted the Fourteenth Amendment as a guarantee to all persons of the rights enumerated in the federal Constitution and its amendments, so that the First Amendment's establishment clause applies to all officials in all branches of all levels of government, and its free exercise clause applies to all persons living in the United States.

The two religion clauses are related but distinct from one another, and the modern Supreme Court has built separate fields of jurisprudence around each of them. The establishment clause prohibits the government from discriminating in favor of religious beliefs or practices by adopting or endorsing them through its laws or the actions of its employees; the free exercise clause prohibits the government from

discriminating against the religious beliefs or practices of individuals and organizations. The principles are complementary in that nonestablishment applies to government action while free exercise applies to private action. But they are also in tension because an expansive interpretation of one clause often requires a restrained interpretation of the other. For example, allowing the widest range of religious practices (strong free exercise) might require special accommodations for religious people that are not granted to nonreligious people (a position contrary to the strong nonestablishment provisions).

Because the Supreme Court is the final interpreter of Constitutional rights that affect all citizens, its decisions can have enormous social and legal consequences, especially in the realm of education, where establishment and free exercise cases are common. In fact, the legal scholar John Witte has found that a third of the Court's nearly 200 cases on religious freedom since 1817 have dealt with religion and education. Most cases focus on establishment questions regarding religions in public schools, but there are also crucial cases regarding the free exercise rights of teachers and students in public schools and the role of government in religious schools.

Religious Freedom and Public Schools

Given the combination of compulsory education laws and impressionable young students, the legal system takes special care to prevent public schools from endorsing or sponsoring religious perspectives or practices. In two landmark cases that still generate controversy today, the Supreme Court outlawed teacher-led prayers in *Engel v. Vitale* (1962) and teacher-led devotional Bible reading in *Abington v. Schempp* (1963), arguing in both cases that these common practices were clear examples of the state promoting a particular form of religion. The same principle of nonestablishment was applied in the Court's later decisions banning mandatory moments of silence and classroom postings of the Ten Commandments. The Court has also ruled that public schools violate the establishment clause when they invite or allow public prayers or other religious messages during graduation ceremonies, general assemblies, or sporting events—even if the prayers are student led—under the reasoning that students in attendance are coerced into hearing religious messages that they may reasonably infer are endorsed by the state.

The public school curriculum provides another controversial area. Here, a relatively consistent case law has developed that upholds the right of public schools to teach about religions in ways that do not indoctrinate or proselytize but rejects the teaching of religion as scientifically valid. In 1963, the Court noted that teaching about religions in public schools was not only permissible but advisable. "It might well be said," wrote Justice Tom Clark for the Court, that

> one's education is not complete without a study of comparative religion or the history of religion and its relationship to the advancement of civilization. . . . Nothing we have said here indicates that such study of the Bible or of religion, when presented objectively as part of a secular program of education, may not be effected consistently with the First Amendment.

The Court has, however, strongly rebuked schools that present religious views as scientifically valid, as when intelligent design or creation science is taught in biology or when teachers are not allowed to teach evolution. In each case, the Court ruled such activities to be unconstitutional establishment of religion.

Crucial religious freedom concerns also arise from the free exercise rights of students and teachers. Public school students are not bound by the establishment clause, and the Court has ruled that they carry substantial free exercise rights with them so long as their exercise of those rights does not distract from the central educational mission of the school. For example, students may wear clothing with religious messages but not when those messages are hateful; students may be punished for promoting drug use, even if they couch the activity in religious terms. Students are free to read the Bible and pray at school, alone or in groups, as long as the practice is not disruptive to academic work and is not initiated or led by teachers or administrators who, as agents of the state, have limited religious freedom rights at school.

In the past 30 years, the Supreme Court has opened and protected a new avenue for the religious freedom claims of private citizens and organizations based on the Fourteenth Amendment's guarantee of equal protection under the law. In several landmark cases, the Court has ruled that if public universities, secondary schools, or primary schools offer project funding or open their facilities after school hours to nonreligious community groups, religious groups must have equal access.

Religious exemptions pose significant challenges to contemporary legal and educational theory

because they pit free exercise claims against values of nonestablishment and equal treatment. Treating all people equally may actually punish one group more than another, as when a school's ban on hats forces Sikh men and veiled Muslim women to choose between important symbols of their faith or their education. Should some religious practices deserve special exemptions? If so, how should we decide which exemptions are valid or desirable? In 1972, the Supreme Court famously ruled in *Wisconsin v. Yoder* that the Amish community's need to sustain its agricultural way of life provided sufficient religious warrant to exempt their children from compulsory education after the eighth grade. A series of Court decisions and congressional laws beginning with *Employment Division v. Smith* (1990) narrowed, widened, then narrowed again the ability of religious people to claim exemptions from generally applicable law. This remains an active area of First Amendment jurisprudence.

Government Involvement in Religious Schools

If the preponderance of church/state controversies falls on the public schools, private religious schools are also the subject of robust constitutional questions. In the past three decades, the Supreme Court has opened the door to extensive public financial support for religious schools under the principle of equal treatment. It has affirmed the use of publicly funded tuition vouchers to pay for education at religious schools in lieu of public schooling; the state's purchase of computers for religious schools; the use of public funds for remedial education, sign language interpreters, and other services at religious schools and colleges; and the granting of tax deductions to parents who pay private school tuition and other educational expenses. In each case, the state program in question was deemed to provide a benefit or service that was neutral with respect to religion because it was provided to a broad class of citizens defined without reference to religion. Though in effect these laws provide benefits to religious persons or institutions—at times, almost exclusively so—the Court found that their intent was not discriminatory, and thus the benefits passed constitutional muster.

Erik Owens

See also Legal Decisions Affecting Education; Religious Education and Spirituality; Religious Symbols and Clothing; Rights: Children, Parents, and Community

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U.S. Supreme Court Cases on Church and State

Agostini v. Felton, 521 U.S. 203 (1997).
The Court's decision in this case explicitly abrogated its earlier Aguilar v. Felton *(1985) opinion that providing on-site services at sectarian schools was not in keeping with the separation of church and state doctrine. In its ruling, the Court acknowledged that not all government aid that directly affects religiously affiliated schools is forbidden.*

Employment Division, Department of Human Services of Oregon v. Smith, 494 U.S. 872 (1990).
The Supreme Court ruled that their religious beliefs do not necessarily exempt people from compliance with neutral, generally applicable laws.

Engel v. Vitale, 370 U.S. 421 (1962).
The Court held that the Establishment Clause precluded the recitation of state-authored prayers in public schools.

Everson v. Board of Education of Ewing Township, 330 U.S. 1 (1947).
The Supreme Court applied the Establishment Clause to the states for the first time in a case involving education, allowing state provision of transportation for parochial school students.

Good News Club v. Milford Central School, 21 F. Supp.2d 147 (N.D.N.Y. 1998) *aff'd,* 202 F3d 502 (2d Cir. 2000); 533 U.S. 98 (2001).
The Supreme Court ruled that a religious group could not be denied the use of a public school's facilities after school hours if the facilities were available to other groups promoting similar issues, namely, the moral and character development of children.

Lamb's Chapel v. Center Moriches Union Free School District, 508 U.S. 384 (1993).
The Supreme Court ruled that a school board's denial of school facility use to a religious group violated the group's First Amendment guarantee to free speech.

Lemon v. Kurtzman, 403 U.S. 602 (1971).
Lemon v. Kurtzman *or "Lemon I," is best known for its three-part test, which the Supreme Court created to be*

used in evaluating whether government action violates the Establishment Clause; this provision prohibits the government from making laws "respecting an establishment of religion." The three parts of the "Lemon test" are that (1) a statute or program must have a secular legislative purpose, (2) its principal or primary effect must be one that neither advances nor inhibits religion, and (3) it must not foster excessive government entanglement with religion.

Mitchell v. Helms, 530 U.S. 793 (2000).

The Supreme Court held that a federal program that loaned instructional materials and equipment to schools, including those that were religiously affiliated, was permissible under the Establishment Clause of the First Amendment of the U.S. Constitution.

School District of Abington Township v. Schempp, 374 U.S. 203 (1963).

In a landmark judgment, the Court held that public schools cannot require devotional Bible reading or collective spoken prayers, even if parents may exempt their children, because these activities are essentially religious ceremonies in violation of the Establishment Clause. The Court affirmed, however, the study of religion and the Bible in public schools "when presented objectively as part of a secular program of education."

Wisconsin v. Yoder, 406 U.S. 205 (1972)

Wisconsin v. Yoder *upheld the Fourteenth Amendment right of parents to direct the education of their children.*

Zelman v. Simmons-Harris, 536 U.S. 639 (2002).

The Supreme Court upheld the constitutionality of a program from Ohio that provided educational vouchers for children from poor families, because it offered aid pursuant to neutral secular criteria that neither favored nor disfavored religion, was available to religious and secular beneficiaries, and was available to parents based on their own independent, private choices.

Cicero

The Roman statesman Marcus Tullius Cicero (106–43 BCE) was considered one of the greatest orators of antiquity, and his writing—on rhetorical theory, government, ethics, philosophy, law, and other topics—remains influential today. Cicero was a politician who put his ideas into practice, but he also wrote extensively about his theories. Much of his writing survives, including hundreds of letters, dozens of speeches, and several treatises on a variety of topics. Among the more noteworthy of his surviving texts is *De oratore*, or *On the Orator*, in which he argues that an ideal orator is master of all communication, written and oral. Cicero synthesized rhetoric and philosophy, arguing that the ideal orator—whether communicating via speaking or writing—needed to be knowledgeable about various subjects, including law, history, and philosophy. Cicero's *De oratore* and other works were influential not only among educators in Rome, such as Quintilian, but also throughout history, notably during the Renaissance. His writings on political theory influenced the founding fathers of the United States and the leaders of the French Revolution. His impact on prose style and political thinking can be felt today.

Oratory in Practice

Cicero was born into the equestrian order (the upper middle class) during a time in which statesmen typically came from the patrician order (or aristocracy). It was possible, however, for a nonpatrician to rise high politically, which Cicero did by first developing a reputation as an eloquent speaker in the courts before winning elections to several offices. He achieved the highest office possible, that of consul (comparable to the U.S. president), in 63 BCE, and he remained an influential senator afterward. He lived during a volatile political time in which the democratic Republic was losing power.

Cicero opposed the dictatorship of Julius Caesar, but he was not asked to participate in Caesar's assassination and was not present when it took place in the Senate chambers in 44 BCE. Afterward, Cicero publicly derided Mark Antony, who seemed likely to follow in Caesar's footsteps. He supported Octavian, Caesar's named successor, in the hope that the young man would leave governing to the elected representatives. In the wake of Caesar's death, a series of civil wars occurred as different factions vied for power. During a short-lived truce, Antony convinced Octavian to have Cicero killed. The elder statesman was slain while fleeing the country. It was reported that his head and hands, which had spoken and written such powerful rhetoric, were severed and nailed on display in Rome. Cicero's death has been seen as symbolic, signifying the death of the kind of active, public rhetoric that he promoted. His assassination showed how powerful his words had been but also how powerless public speech was in this new Roman society. Octavian eventually arose from the fighting to become the first emperor of Rome, taking the name Augustus. In his ensuing reign, and the subsequent

reigns of his successors, citizens of Rome were afraid to speak on political issues and participate in public life the way Cicero had.

Rhetorical Theory

Cicero wrote extensively throughout his life. One of his earliest works, titled *De inventio*, or *On Invention*, discussed invention, the first of the five rhetorical canons. As a schoolboy, he would have been educated in all the five canons—(1) *inventio* ("invention"), (2) *dispositio* ("arrangement"), (3) *elocutio* ("style"), (4) *memoria* ("memory"), and (5) *pronuntiatio* ("delivery")—considered necessary for producing a great speech. *De inventio* was possibly Cicero's first attempt at writing about all the five canons; however, either he did not finish the others or they have been lost. Cicero was probably no more than 20 years old when he wrote *De inventio*; it remains noteworthy primarily because of its contrast with *De oratore*, which he wrote some 30 years later, after a successful political career. In style, *De inventio* reads like a textbook for orators speaking in court. Cicero pedantically presents the information but struggles to synthesize the various points of view. Cicero himself later criticized *De inventio* as a youthful writing exercise. Nevertheless, *De inventio* provides insight into Roman rhetorical education in that time period.

De oratore, on the other hand, provides a richer, more eloquent examination of rhetoric and oratory. While *De inventio* was written like an education manual, which was a common format at the time, Cicero chose to break from this trend, modeling *De oratore* after the Greek dialogues. In the vein of Plato's *Gorgias* or *Phaedrus, De oratore*, which is much longer than the Platonic dialogues, consists of a series of fictional conversations between preeminent Roman orators, historical figures from Cicero's youth. By using representations of well-known orators, Cicero was able to provide a theoretical discussion of rhetoric.

Similar to the way Plato represented Socrates, Cicero used the character of Crassus, a former consul who had actually tutored Cicero, as the primary means to express his own point of view. However, Cicero does not entirely disagree with Antonius, the other main character; and furthermore, the participants in the debate modify and amend their perspectives. The dialogues then offer a demonstration of the varying ideals of rhetoric from the time period, but the work as a whole also provides an illustration of effective communication leading to more developed thinking. Because of its structure and style, *De oratore* does not provide a concise thesis regarding Cicero's rhetorical theory. Rather, the discussion implies the flavor of Cicero's perspective of rhetoric. Through *De oratore*, Cicero paints the picture of the ideal orator as someone who achieves excellence in oratory through the study of philosophy and rhetoric. He noted that wit, humor, and psychological insight were important to move an audience to a particular emotion. An orator must be able to adapt his rhetorical style to different occasions or audiences. Moreover, the orator must feel the same emotions that he is trying to arouse in a particular audience.

While Cicero's discussion of rhetoric emphasized oratory, this was a product of Roman society and should not be seen as a preference over writing. Decision making in Rome, whether in a courtroom or in the senate, happened predominantly through verbal public discourse. Written texts, though not necessarily scarce for educated citizens, were certainly rarer than the mass-produced print and digital texts saturating the modern world. Nevertheless, Cicero thought that an orator should be eloquent regardless of the mode of delivery, and his own written treatises and spoken speeches demonstrated that the ideal he argued for could be achieved.

One of the reasons for Cicero's continuing relevance is his discussion of rhetoric, as modern scholars do not treat it simply in terms of oratory but apply it in broader ways. Just as the five canons have been adapted to apply to written and electronic communication, Cicero's discussions of oratory remain relevant to rhetoric in various forms. Considerations of audience, style, arrangement, the rhetorical canons, and even wit and humor remain pertinent to communication in varying contexts, even if society no longer places as much importance on oratory.

Andrew Bourelle

See also Aristotle; Augustine; Isocrates; Plato; Quintilian; Rhetorical Canons; Socrates and Socratic Dialogue; Sophists

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Citizenship and Civic Education

Citizenship has a number of different potential meanings, ranging from a person's legal status within a country to his or her civil, political, or social standing within a community, to the set of behaviors that represent a particular ideal of civic virtue. Civic education is hence an equally broad concept. It can cover solely the specific rights and duties of legal citizens, but usually it is used more capaciously to indicate the knowledge, skills, and attitudes that children are expected to learn to be virtuous and civically productive members of society. Citizenship and civic education are key concepts in the philosophy of education because their meanings, aims, and practices are so contested, both among philosophers and among actors on the ground, such as parents, educators, politicians, students, and members of diverse cultural groups. This entry begins by addressing different conceptions of citizenship, including the emerging concepts of digital and global citizenship. It then transitions to the relationship between citizenship and civic education, explaining why civic education is needed and how its aims and functions vary in relation to a country's form of government. Given democracy's global ascendancy, the bulk of the entry discusses why even within democratic contexts there is significant contestation over civic education's purposes and practices. The entry ends by clarifying that civic education takes place in multiple settings, not just schools, although schools do pose particularly interesting challenges to philosophers of education.

What Does It Mean to Be a Citizen?

At its most basic level, citizenship refers to the legal status enjoyed by full members of a state (meaning a self-governing country). Citizens have rights and privileges accorded or protected by the state, as well as duties toward the state. These duties almost always entail paying taxes and following the laws; they may also include serving on a jury, voting, serving in the military, attending church, reporting suspected subversives, or attending rallies, among many other possibilities. Rights and privileges are equally variable, depending on the state's form of government and political traditions. They may include rights or privileges to vote, to be protected from physical attack, to earn a living wage, to speak freely, to attend school, to run for office, to obtain a passport, to practice one's religion, or to travel. Even in democracies, however, not all citizens necessarily share the same rights, duties, or privileges. Before 1971, for example, female citizens of Switzerland did not enjoy the same right to vote in federal elections as male citizens had. Currently, male citizens have the duty in the United States to register for Selective Service, whereas female citizens do not. Gay citizens in most countries do not enjoy the privilege of marrying a same-sex partner. So citizenship is a shared legal status to some extent, but one that may vary depending on individual citizens' identities. At the same time, a number of rights, duties, and privileges are also enjoyed by noncitizens who live within a state. For example, in most states noncitizens are obligated to pay taxes, are provided some social services, and have similar rights to free expression or free assembly as citizens possess. Noncitizens sometimes even have the right to vote.

When philosophers and educators address citizenship or civic education, therefore, they often think of themselves as referring to the identities, rights, and obligations of the residents of a country in general, rather than solely those of legal citizens. It can be helpful to think in terms of the three forms of citizenship—civil, political, and social—distinguished by the sociologist T. H. Marshall. He used this distinction to analyze how citizens' rights have changed over time, but these three forms are equally useful for understanding how citizenship itself is a multidimensional concept, not merely a political status. "Good citizenship" is similarly taken to refer to a broader set of virtues than those characteristic merely of legal citizenship. Civic virtue may be seen in a person's helping out an ailing neighbor or in people working with multinational organizations to improve economic conditions or end child slavery. In this respect, citizenship is sometimes treated as a way of being in the world—of being attentive to the common good or doing one's part—rather than as a way to distinguish a set of people from others on status-dependent grounds.

New forms of citizenship are also coming to the fore that are not connected to state membership or residence. One is the "digital citizen," sometimes referred to as the "netizen." Digital citizenship can refer to how people work through the World Wide Web, across geographic boundaries, to identify injustices or solve problems together. The use of Twitter during the Arab Spring in 2011 was one prominent instance of digital citizenship. Digital citizenship may also refer to the use of digital tools, such as online petitions or automatic data aggregators, to conduct civic and political action solely online. It also increasingly refers to citizens' roles as media producers rather than solely consumers; digital citizens contribute to the creation and dissemination of civic knowledge through posting blogs, videos, and other resources. Or netizens may enact digital citizenship by fighting against Internet trolls and socializing new members into a network. Just as the digital space is in flux, so too is digital citizenship; one can predict, however, that it will be an ever more prominent component of both philosophy and education about citizenship.

A second category of citizenship that transcends state boundaries includes transnational, global, and cosmopolitan citizenship. Transnational citizens have political roots in two or more states, thanks to immigration, refugee status, intermarriage, or other life experiences. They identify with multiple countries. Advocates of global citizenship, by contrast, often deny that they—or anyone—should identify with *any* country; rather, they embrace a vision of citizenship that links all human beings in a collective search for solutions to global problems like climate change or economic inequality. They also embrace a globalized conception of human rights and obligations, rather than one that is state specific. Cosmopolitan citizens may (or may not) also disavow allegiance to any particular country, but this tends to be because they feel connected to many countries and cultures as a result of multicultural production and consumption, work, travel, or the cosmopolitan character of where they live. Thanks to these experiences, the philosopher Kwame Anthony Appiah argues, cosmopolitan citizens embrace the value of pluralism, even if they also hold strong local identities. Martha Nussbaum (2002) pushes the cosmopolitan ideal further toward a global one, arguing that "we should give our first allegiance to no mere form of government, no temporal power, but to the moral community made up by the humanity of all human beings" (p. 7). Cosmopolitan citizenship is often contrasted with patriotic citizenship, a commitment to "my country, right or wrong."

Why Is Civic Education Necessary?

There are two primary reasons why civic education is necessary. First, and perhaps of primary importance for those who do not want to sink into a state of nature (in which life is likely to become "nasty, brutish, and short," as Thomas Hobbes so memorably put it), civic education of some sort is necessary to perpetuate the state itself. No government is intrinsically self-perpetuating, as there is no reason to think that human beings born under any particular government will naturally come to develop the knowledge, skills, and dispositions to maintain it. In the case of an unjust or illegitimate state, civic education may be needed especially to convince or compel its subjects to remain in its thrall. Such an education might play primarily on fear: of a dangerous "other," of social collapse in the absence of the state, or of the state's power to inflict harm on dissenters. In this respect, illegitimate states may also use civic education as a means of maintaining privilege for those in power, and to either justify or obscure the disempowerment of others. A just and legitimate state, however, also needs civic education for its perpetuation. As will be addressed below, citizens in just and legitimate states tend to have many rights and duties. It takes a great deal of work to learn how, when, and why to exercise one's own rights and duties, as well as to respect those of others. To the extent that ordinary citizens are also involved in governing—as they are in a democracy "of the people, by the people, and for the people"—civic education is necessary to teach citizens how to lead.

Second, civic education is necessary to realize the civic ideals of the state, which is different from perpetuating the state itself. Civic ideals that identify the appropriate kinds of relationships among citizens—whether those are of equality, natural hierarchy, mutual respect, shared adoration for the fatherland, mutual noninterference, or common national identity—are achieved only to the extent that citizens internalize and act on these ideals. Civic education is necessary for this internalization and action. Related to this, some thinkers also view civic education as essential for helping people become their ideal selves, insofar as they view civic life as essential to living a good life. Aristotle, for example, declared in Book One, Part II of his *Politics* that "man is by nature a political animal. And he who by

nature and not by mere accident is without a state, is either a bad man or above humanity." This perspective that civic engagement is central to the good life is one that has been developed especially by advocates of civic republicanism, including Niccolò Machiavelli, Montesquieu, and Hannah Arendt.

Civic education is also arguably necessary regardless of state interests. As young people learn to navigate digital citizenship, for example, they may well need guidance about how to do so responsibly, constructively, and safely. Many adults and children alike are concerned about online bullying, for example. Navigating the many different online publics with their own echo chambers of ideas and even simply distinguishing fact from opinion from falsehood when using unmediated digital sources also are skills the development of which may require civic education. Advocates of cosmopolitan or global citizenship also tend to see civic education as being essential to help develop broad-minded, mutually respectful citizens of the world. It also takes a great deal of effort to work across cultural, linguistic, or geographic boundaries to solve problems of collective concern. This kind of practice is an essential component of civic education for global citizenship.

What Are the Goals of Civic Education in a Democracy?

As the sections above have suggested, civic education may have many different goals, depending on the civic institutions that it is intended to serve. Because the majority of countries in the world are democratic in at least some respects however, and because much of the philosophy of education that addresses civic education presumes a democratic context, it is especially important to consider the goals of civic education in a democracy.

To begin with, it is important to acknowledge that many components of a democratic civic education may also be attractive to authoritarians or even tyrants. For example, teaching respect for the law, honesty, literacy, and willingness to sacrifice for the greater good may be essential goals of an effective civic education in either a democracy or an autocracy. On the other hand, some knowledge, skills, and attitudes seem more particular to democracies. The capacity for self-rule, for example, is by definition central to democracy—the original Greek term means "rule by the people." Other aims of democratic civic education might include the development of mutual toleration and respect, commitment to freedom of speech and other core democratic rights and values, acknowledgment of the legitimacy of democratically achieved decisions even if one is on the losing side, the capacity and inclination to deliberate with diverse others, and the ability to recognize and elect good political leaders.

To some extent, which of these aims rises to the fore depends on one's ideal of democracy itself. For example, the capacities for deliberation with diverse others, on the one hand, and for recognizing and electing good leaders, on the other, echo key tensions among advocates of popular democracy, deliberative democracy, and representative democracy. Depending on one's view about what democracy entails—majority rule, deliberative consensus building, or the election of wise representatives who do the actual governing—a democratic civic education may focus on fairly disparate skills and knowledge. Thomas Jefferson (1818/1856) clearly demonstrates this divide in his proposal for public education. He advocates universal primary education on the grounds that every citizen should learn to be economically self-sufficient, "to understand his duties to his neighbors and country," and "to know his rights; to exercise with order and justice those he retains; to choose with discretion" his representatives, and "to notice their conduct with diligence, with candor, and judgment" (p. 434). He advocates higher education for a much smaller number of students, however, "to form the statesmen, legislators and judges on whom public prosperity and individual happiness are so much to depend" (p. 435). Jefferson's vision of civic education clearly distinguishes between the democratic rulers and the democratically ruled. Thirty years later, the American educator Horace Mann (1846/1891) promoted a very different vision of democratic civic education. He warned,

> In a republican [representative] government, legislators are a mirror reflecting the moral countenance of their constituents. And hence it is, that the establishment of a republican government, without well-appointed and efficient means for the universal education of the people, is the most rash and fool-hardy experiment ever tried by man. . . . It may be an easy thing to make a republic; but it is a very laborious thing to make republicans. (pp. 270–271)

Joseph Kahne and Joel Westheimer (2004) have identified a related division in contemporary civic education among proponents of "personally respon-

sible, participatory, and justice-oriented" citizenship (p. 237). They characterize the personally responsible citizen as someone who donates food to a canned food drive, say, while the participatory citizen organizes the food drive. The justice-oriented citizen, in contrast, focuses on addressing the underlying problems of hunger and food scarcity. All three approaches are compatible with democracy, but as Kahne and Westheimer show through both philosophical and empirical analyses, they imply very different agendas for civic education.

To some extent, these differences are rooted in competing civic *identities*. If a person thinks, "As a good citizen, I am someone who . . . ," how should he or she finish the sentence? The debate over patriotic education becomes relevant here. How important is it for someone to declare, "I am proud to be an American [or other nationality]" or "As a good citizen, I am someone who defends my country to the utmost"? Many advocates of patriotic education argue that only such sentiments bind strangers together in a web of reciprocal obligation. Only such sentiments are strong enough to motivate civic engagement and active democratic cooperation in a multicultural context. Others advocate instead that citizens should learn to say, "As a good citizen, I am someone who fights injustice even when that means opposing my own government" or "who defends human rights and battles global climate change." These divisions do not break down neatly along ideological lines. Nonetheless, such disputes raise significant practical challenges for civic educators, who fear teaching a partisan curriculum. Unfortunately, this means that civic education often eschews politics altogether for an anodyne mush of lessons about how a bill becomes a law and controversy-free service learning projects.

Finally, some people question any separation of civic education from the broader educative enterprise. John Dewey (1916/1944) famously characterized democracy as follows: "A democracy is more than a form of government; it is primarily a mode of associated living, of conjoint communicated experience" (p. 87). In this respect, education for democracy and education for life are inextricably intertwined. It does not make sense to conceive of one in the absence of the other. Another reason why civic education may be thought to be inseparable from "good education" is that the strongest predictor of adults' civic and political engagement is their number of years of schooling. This finding has held true for a century in virtually every country that has been studied. Hence, it is possible that civic education understood as education for civic empowerment might best be characterized as high-quality education, period, rather than as specific instruction in the knowledge, skills, and attitudes particular to democratic citizenship.

On the other hand, there is significant evidence of a civic empowerment gap in the United States and other countries between members of historically privileged versus historically disenfranchised groups (Levinson, 2012). One way to address this gap is to work with historically disenfranchised youth to construct an intentionally designed, empowering civic education. Paulo Freire (1970/2008) similarly advocates reshaping education in concert with "the oppressed" to achieve transformative civic ends:

> No pedagogy which is truly liberating can remain distant from the oppressed by treating them as unfortunates and by presenting for their emulation models from among the oppressors. The oppressed must be their own example in the struggle for their redemption. (p. 54)

Where Does Civic Education Take Place?

Civic education takes place throughout society, in public and in private. Civil society is itself educative, through its signs, symbols, and practices. Every coin and bill offers a prominent reminder of the state's civic heroes and values. So, nowadays, do most government websites. Court rooms featuring judges clad in robes and often wigs, police checkpoints, everyday interactions with social service agencies, and the architecture of city halls all teach citizens about the power and nature of the state and where they stand in relation to it—whether for good or ill. Families also engage in civic education, whether intentionally or not. Children are instructed about when and how to speak up and when to keep their heads down and comply with the dictates of others. Some children learn how to exercise leadership in the family or through extracurricular activities. They may learn to debate current events over dinner, accompany their parents to vote on election day, or volunteer at a shelter every month. There is strong evidence that all these kinds of experiences affect the nature, quantity, and quality of their later civic and political engagement as adults. The impact of the family on civic engagement has been recognized for centuries, in fact. Even while women were excluded from most public roles in the United States until the 20th century, for instance, they

were lauded as essential contributors in raising their sons and husbands to support the causes of liberty and democracy.

Just as families and civil society engage in civic education both explicitly and implicitly, so too do schools have multiple ways of providing civic education. The most obvious of these are government, history, and civics courses. There has been an ongoing debate about the impact of such courses. There seems to be good evidence that when these courses are taught very well, including active learning opportunities such as simulations, discussions, and action civics, they can contribute to students' civic knowledge, skills, and engagement. The most important factor is an open classroom climate in which students feel free to express their own opinions and disagree with others in a mutually respectful way. Unfortunately, however, many of these classes feature dry recitations, textbooks, and worksheets that have little demonstrable impact on students' civic learning. As these pedagogical examples suggest, though, schools also provide civic education, whether intentionally or not, more broadly through their overall culture, practices, and pedagogies. Whether or not a student experiences a high-quality civics course, her experiences of participating in student government, feeling respected in the hallway and cafeteria, and being solicited for her opinions in school assemblies can also promote her sense of civic efficacy, membership, and identity. The opposite may also occur in schools that disrespect students or give them few outlets for voice and leadership. As philosophers of education reflect about citizenship and civic education, therefore, this is another realm for productive inquiry.

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See also Democratic Theory of Education; Dewey, John; Freire, Paulo: *Pedagogy of the Oppressed* and Critical Pedagogy; Hidden Curriculum; Multicultural Citizenship; Patriotism; Values Education

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Code Theory: Basil Bernstein

Basil Bernstein (1924–2000) was a North London schoolteacher turned sociologist of education, appointed to the Karl Mannheim Chair of Sociology of Education at the Institute of Education at the University of London. From the 1960s on, he sought to describe the principles underlying the perpetuation and change of class relations by the family and the school. In a series of five volumes, collectively titled *Class, Codes and Control*, he progressively developed his theory in dialogue with the work of his students. A theory of the code is central to this work. This entry discusses the development of code theory and Bernstein's ideas about sociolinguistic and educational codes.

A *code* in common usage is a covert translation or regulation device linking features in two different contexts. "Cracking the code" entails making visible the principles of the translation device so that one is able to "read" the features of one context in terms of the features of the other. The "genetic code," for example, allows one to read the relation between personal attributes and one's genetic inheritance. To

grasp what is translated or regulated by Bernstein's educational code, three of Bernstein's intellectual forebears merit a brief comment.

After the anthropologist Mary Douglas, an ardent admirer, Bernstein was the most important Durkheimian scholar to come from England. He shared Émile Durkheim's project of understanding how macrosocial relations—the division of labor—both shaped and were shaped by symbolic cultural forms and forms of consciousness through the institutions of the church, family, and school. Bernstein also became steeped in the structuralist and poststructuralist European intellectual currents of the 1960s and 1970s, sharing with them a desire to render legible the invisible social pattern and an inclination to abstraction and formalism, which some readers found off-putting. Paul Atkinson has pointed to the influence of Ferdinand de Saussure, but one could equally point to Noam Chomsky, Jean Piaget, A. R. Luria, and Lev Vygotsky, and also to his intellectual comrade, the linguist Michael Halliday. To conclude that Bernstein was therefore a "structuralist," as many have done, is erroneous. He was also influenced by symbolic interactionism, and in common with the sociologies of his time, his aim was to give an account of the principles of the code in terms of both the structural dimension (hence "class") and the interactional or communication dimension (hence "control").

There are two principal phases of the development of code theory, the first concentrating on the principles of communication generating different "orientations to meaning" (or different sociolinguistic codes) in young children, the second broadening the theory to account for educational communication in general. In the latter development, the theory is refined to show how coding principles vary and how these variations can be formally modeled.

Sociolinguistic Codes

Why, asked Bernstein in 1960s England, was working-class schooling failure so intractable? Which mechanism of mass schooling reproduced the division of labor and the hierarchy between mental and manual labor so remorselessly? How did the class position of parents become transmuted into a cognitive orientation that favored middle-class children and disadvantaged those from working-class homes?

Through a series of ingenious studies, Bernstein identified two critical nodes. The first was the form of socialization in the family, in particular the way parents exercised authority. Bernstein distinguished between modes of parental control. Middle-class socialization relations were predominantly *personal*—where the control was filtered through reason and discursive elaboration ("Why do good children not hit the cat?"); working-class relations were predominantly *imperative*—where the control was more directly exercised through commands and injunctions ("Because I said so"). These socialization styles engendered distinct "habits of meaning," identified through speech repertoires. The imperative mode generated a *restricted code* or orientation to meaning—particularistic, context dependent, more concrete; the personal mode generated an *elaborated code*—universalistic, context independent, more abstract.

Bernstein's point was to show that middle-class socialization, which matched the orientation of the school, gave middle-class children a head start, while working-class children, with their coding mismatch, still had to learn the orientation and associated semantic forms the school assumed had been already learned. The head start was given by the properties of the code, which allowed middle-class children to recognize the task requirements of elaborated discourse at school (possession of the recognition rule) and allowed them to produce a legitimate text or performance (possession of the realization rule). For example, when Lesley Lineker (1977) asked children to explain how to play hide-and-go-seek, middle-class children tended to describe the rules of the game, while working-class children described their particular personal experiences.

The term *restricted* proved to be most unfortunate and was taken by sociolinguists like William Labov to be referring to a deficient dialect rather than a different semantic style, something Labov regarded as a cultural insult. It took a great effort of clarification from Bernstein before Labov was ultimately persuaded, by which time irreparable damage had been done to the theory of sociolinguistic codes.

Educational Codes

So far then, Bernstein had established that it was the possession of a matching coding orientation, tacitly acquired at home, that enabled middle-class children to select and integrate the required meanings and forms of their realization for success at school. He next turned his attention to the modalities of the elaborated code of the school itself, refining his theory to express the axes of variation of the

two principal dimensions of the elaborated code, the *structural* dimension and the *interactional* dimension. From Durkheim, he adopted the term *classification* to denote the degree to which categories of agents, school subjects, and spaces should be kept apart (strong classification) or integrated together; and from Erving Goffman, he adopted the term *framing* to denote the degree to which the communication relations were controlled by the teacher (strong framing) or allowed for apparent control by the children (weak framing). Strength of classification thus regulated the dimension of power; strength of framing regulated the dimension of control. Together, classification and framing values provide the grammar of the educational code—how the principles of power (class) and control are translated in the teaching context into forms of learner consciousness.

In his early work, Bernstein distinguished between strongly classified and framed curricula, which he called collection code or closed curricula, and weakly classified and framed curricula—integrated code or open curricula. Similarly, he distinguished between strongly classified and framed pedagogy—which he called visible pedagogy—and weakly classified and framed pedagogy—invisible pedagogy. In this latter analysis, strong coding values emphasize clarity of expectations and hierarchical differences—between teachers and learners and in the relative performance of learners—while weak coding values foreground the capacities and predispositions of learners and background both hierarchy and expectations.

Two developments characterize his later work. First, the concept of framing has been considerably elaborated. Following Durkheim and Talcott Parsons, Bernstein distinguished between two dimensions of the communicative relationship: (1) a moral or expressive dimension, akin to school climate, which Bernstein called the *regulative discourse* and which was principally exhibited in the way the school was run—more or less strictly—and (2) an instrumental dimension, called *instructional discourse*. The code of instructional discourse—control over transmission of content—determines whether the selection of learning material, its sequencing, its pacing, and its evaluation are strongly controlled or not. The second elaboration is that classification and framing have been allowed to vary independently, which has allowed for a broader number of pedagogical possibilities and has allowed researchers to inquire into the most appropriate combination for learners from different, especially poor and disadvantaged, backgrounds.

The most comprehensive investigation into this feature has come from the work of the Sociological Studies of the Classroom group at the University of Lisbon, led by Ana Morais. They have been able to show that *strong framing* over external content selection and over the evaluative criteria (which signal the performance expectations of the curriculum), together with *weak framing* over pacing (to allow different learners time to catch up) and over teacher–pupil relations (which allows teachers to individualize the teaching), works best for students from both the middle and the working class. Of these, making the evaluative criteria explicit is the most critical. This means telling children unambiguously what is expected of them and what is missing from their answers, and clarifying concepts. This "mixed pedagogy" has been empirically supported by work done in the United States, South Africa, and Australia. The great virtue of this refinement of educational code theory is that it breaks from the hoary ideological polarities of learner-centered versus traditional or back-to-basics pedagogies and allows for precision in stipulating the coding values that offer the best access to school knowledge for disadvantaged children.

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See also Achievement Gap; Social Class; Socialization

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Cognitive Load Theory and Learning

Cognitive load theory uses knowledge of human cognitive architecture to generate instructional

procedures. In turn, the structure of human cognitive architecture is based on biological, evolutionary principles. This entry discusses how the principles of natural information processing systems apply to biological evolution and human cognition and what techniques can be used to reduce working memory load and facilitate the transfer of information to long-term memory.

The categorization of knowledge is an important facet of human cognitive architecture. David Geary distinguishes between biologically primary and secondary knowledge. We have evolved to acquire various modules of biologically primary knowledge automatically and without conscious effort or explicit tuition over countless generations. Examples are learning to listen to and speak a first language, recognizing faces, and learning to use a general problem-solving strategy.

Biologically secondary knowledge is knowledge that we have not specifically evolved to acquire but that has become important for cultural reasons. It is not acquired automatically or unconsciously and is best learned with the assistance of explicit instruction. We invented schools and other educational institutions to teach societally important, biologically secondary, knowledge that otherwise is unlikely to be learned. For example, we can learn to listen and speak without tuition but are unlikely to learn to read and write without explicit instruction. The bulk of the curricula taught in educational institutions fall into the category of biologically secondary knowledge.

Cognitive load theory uses the human cognitive architecture associated with the acquisition of biologically secondary knowledge. Secondary knowledge is processed in a manner analogous to the manner in which biological evolution processes information. The suggestion that evolutionary biology may provide an analog for human cognition has a long history stretching back to Charles Darwin and, more recently, Karl Popper. Both human cognition and biological evolution can be characterized as natural information processing systems.

Principles of Natural Information Processing Systems

There are many ways of describing natural information processing systems. Within a cognitive load theory context, they are most commonly described using five basic principles.

The *information store principle* states that natural information processing systems rely on a very large store of information to enable them to function in a natural environment. A genome provides that role for biological evolution, while long-term memory has an equivalent role in human cognition.

The *borrowing and reorganizing principle* explains how natural information processing systems are able to rapidly acquire their large information stores. During reproduction, information is borrowed from ancestors, with some reorganization of that information during sexual reproduction. Similarly, the bulk of the information stored in human long-term memory is obtained and reorganized by imitating what other people do, listening to what they say, and reading what they write.

While most of the information in an information store is borrowed, it must at some point be created. The *randomness as genesis principle* explains how information is initially created. Random mutation, a process of randomly generating new information and testing its effectiveness, provides the initial creativity engine of evolutionary biology. Analogously, in human cognition, random generation and test during problem solving provide the basic machinery for creativity. No other basic creativity mechanism has been identified.

Random generation has a critical structural consequence indicated by the *narrow limits of change principle*. If novel information must be generated randomly, the system needs a structure to reduce the impact of combinatorial explosions. A very limited-capacity working memory determines which elements will be processed and ensures that humans only process three or four novel elements at any given time. The epigenetic system plays a similar role in evolutionary biology by increasing or decreasing the probability of the relatively rare mutations at particular genetic locations.

Last, the *environmental organizing and linking principle* provides the ultimate justification for a natural information processing system by allowing appropriate actions in specific environments. When dealing with organized information stored in long-term memory, the limitations of working memory disappear, with no known limit to the amount of information from long-term memory that working memory can process. With appropriate information stored in long-term memory in conjunction with environmental triggers, human performance is transformed. Similarly, depending on environmental factors, the epigenetic system can transform the function of the massive store of information held by the genetic system. For example, despite having

identical genetic material, a skin cell has vastly different structural and functional characteristics compared with a liver cell.

Techniques to Reduce Working Memory Load

Cognitive load theory uses this cognitive architecture as a base. The theory is primarily concerned with techniques, some of which are outlined below, to reduce extraneous or unnecessary working memory load in order to facilitate the transfer of information from working to long-term memory for later use.

The *worked example* effect occurs when studying worked examples results in better problem-solving performance than solving the equivalent problems. Searching for a problem solution exerts a heavy extraneous working memory load that contributes little to learning. When learning to solve problems in an area, it is more efficient to have learners study worked examples indicating the solution steps rather than have them attempt to generate solutions themselves.

Eliminating *split attention* can decrease extraneous cognitive load. Imagine a geometric diagram with an associated statement under the diagram: "Angle ABC equals angle XYZ." Learners must split their attention between the diagram and the statement to search for angles ABC and XYZ on the diagram. That search process utilizes scarce working memory resources to mentally integrate the two sources of information. We can eliminate this split attention by placing the statement on the diagram (physical integration) rather than requiring learners to mentally integrate the two sources of information. Physical integration facilitates learning.

Working memory includes partially independent visual and auditory processors. The visual processor deals with two- and three-dimensional visual information, while the auditory processor deals with speech. Using both processors can increase effective working memory capacity, resulting in the *modality* effect. Thus, learning can be facilitated if learners hear "Angle ABC equals angle XYZ" rather than attempting to read the statement while looking at the diagram.

The split-attention and modality effects only apply when two or more sources of information are unintelligible in isolation. In contrast, if, for example, a statement merely redescribes a diagram, it should be eliminated because the presence of both sources of information requires learners to unnecessarily use working memory resources to process the redundant information. Improved learning following the elimination of redundant information provides an example of the *redundancy* effect.

As the levels of expertise in an area increase, the difference between the two instructional techniques may reduce, then disappear, and finally reverse, resulting in the *expertise reversal* effect. In most cases, the effect of redundancy provides the reason for these changes in effectiveness. Information that is required for novices to understand the material may be redundant when provided to more knowledgeable learners.

There are many other cognitive load theory–based instructional effects, with new effects being generated constantly. The ability to generate such effects provides a degree of validity to the theory.

John Sweller

See also Cognitive Revolution and Information Processing Perspectives; Evolution and Educational Psychology; Learning, Theories of; Transfer of Learning

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Cognitive Revolution and Information Processing Perspectives

How do people learn, remember, and solve problems? Questions about learning, memory, and cognition have instigated an explosion of empirical research evidence, but building useful answers to these questions requires more than simply assembling a research base. Understanding human learning, memory, and

cognition requires a theoretical framework for systematizing and interpreting existing research and for suggesting new research questions and studies. Influential theoretical frameworks in psychology and education are often conceptualized as metaphors (Sternberg, 1990), and advances in scientific fields can be facilitated by shifts in the conceptual metaphor underlying the dominant theoretical framework of the day (Gardner, 1985; Kuhn, 1970).

In the fields of psychology and education, the *cognitive revolution* refers to the shift from associationist conceptions of how the mind works to information processing conceptions (Mayer, 1992, 1996, 2008a). The *information processing* conception is based on the underlying metaphor of the mind as a computer and has served as the dominant view since the 1960s (Neisser, 1967; Rumelhart, 1977). The goal of this entry is to explore the cognitive revolution, and the information processing view on which it is based, as well as to examine the contributions, limitations, and future of the cognitive revolution.

What Is the Information Processing Perspective?

Humans are processors of information. This statement epitomizes the information processing view of how the human mind works. According to the information processing view, human mental life consists of applying cognitive processes to mental representations. Classic examples include mentally comparing two elements to determine whether they are the same or different, or mentally rotating an image.

Distinction Between Mental Representations and Cognitive Processes

As can be seen, there are two key elements in the information processing view: *mental representations* and *cognitive processes*. Mental representations refer to information or knowledge held within one's information processing system, such as the meaning of this paragraph, or a mental image. Cognitive processes (or mental computations) involve carrying out an operation on a mental representation, such as mentally rotating an image or determining whether two representations are the same or different. A major focus of the information processing approach to how the mind works is specifying how knowledge is represented and manipulated in learning, memory, and cognition.

Mental representations can take a verbal or spatial format, or perhaps some other kind. For example, Figure 1 shows a spatial representation of the first sentence of this section. Developing useful techniques for representing knowledge is a major task of the information processing approach.

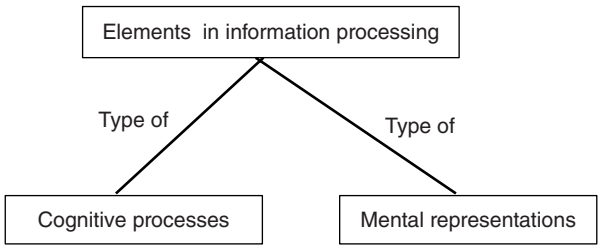
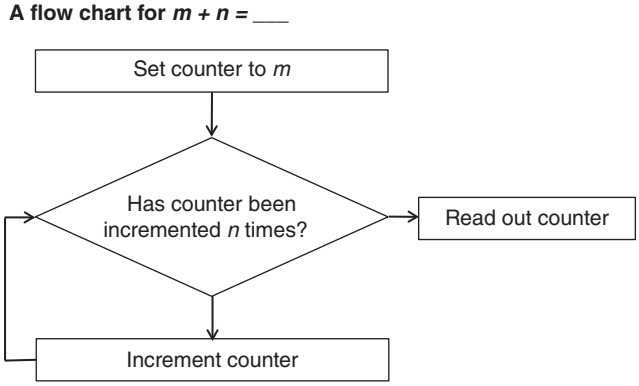


Figure 1 A Mental Representation of Text
Source: Richard E. Mayer.

Cognitive processes take time and can be described in a flow chart or computer program. Any cognitive task can be broken down into component processes and represented as a flow chart or computer program through a process called *cognitive task analysis*. For example, consider a child who solves the arithmetic problem "What is 2 + 3?" by putting out two fingers on one hand and saying "2" and counting out three fingers one by one in the other hand while saying "3, 4, 5." This is an example of the counting-on procedure for simple addition, which can be broken down into four steps, as represented in the flow chart at the top of Figure 2 and the computer program at the bottom of Figure 2. The first step is to set a counter to the first number (e.g., 2); the second step is to



A program for *m* + *n* = ___

1. Set counter to *m*.
2. Has counter been incremented *n* times?
3. If yes, stop and read out counter.
4. If no, increment counter, and go to Step 2.

Figure 2 Cognitive Processes for Simple Addition
Source: Richard E. Mayer.

determine whether you have incremented it by the second number (e.g., three times), to keep incrementing the counter until you have reached the second number, and then to recite the number in the counter. In this case, cognitive task analysis results in the specification of the cognitive processing involved.

Architecture of the Human Information Processing System

Where do all these mental computations take place? In addition to focusing on mental representations and cognitive processes, a major focus of the information processing approach is on the architecture of the human information processing system, in which memory stores are represented as boxes and cognitive processes are represented as arrows. Figure 3 presents a model of the human information processing system, adapted from Mayer's (2009) cognitive theory of multimedia learning, that consists of three memory stores (sensory memory, working memory, and long-term memory) indicated by boxes, three major cognitive processes (selecting, organizing, and integrating) indicated by arrows, and two channels (visual and verbal) indicated by rows.

Information from the outside world enters the cognitive system through the eyes or ears and is held for a fraction of a second in sensory form in *sensory memory*. If the learner attends to part of the fleeting sensory image (indicated by the *selecting* arrow), some of the information is transferred to *working memory*, where it is represented in a format suitable for applying various cognitive processes (indicated by the *organizing* arrow), which can change the representation. In contrast to sensory memory and long-term memory, working memory is limited in capacity, so that only a few pieces of information can be processed in each channel at any one time. The limited capacity of working memory has crucial implications for how learning, memory, and cognition work, and recognizing the limitations on information processing in working memory is perhaps the single most important contribution of the information processing perspective. The learner can activate relevant prior knowledge from *long-term memory* and combine it with the incoming information in working memory (indicated by the *integrating* arrow). The newly constructed knowledge representation in working memory can be stored in long-term memory, which is the learner's permanent storehouse of knowledge.

Three major principles inherent in the human information processing model shown in Figure 3 are the *dual-channels principle*, the *limited capacity principle*, and the *active processing principle*. The dual-channels principle is the idea that people have separate information processing channels for visual/spatial representations and auditory/verbal representations. The limited capacity principle is that people are able to actively hold and manipulate only a few items in each channel at any one time. The active processing principle is that learning and cognition require active cognitive processing, including selecting relevant information, organizing it into a coherent representation, and integrating it with relevant prior knowledge.

The information processing view is grounded, of course, in a computer metaphor, in which learning, memory, and cognition in computers are likened to learning, memory, and cognition in humans, as summarized in Table 1. The rows represent the three aspects of mental life—learning, memory, and cognition—and the columns show how computers and humans are similar in each of these areas. Overall, both computers and humans receive information from the outside world, store it in memory, and perform operations on it.

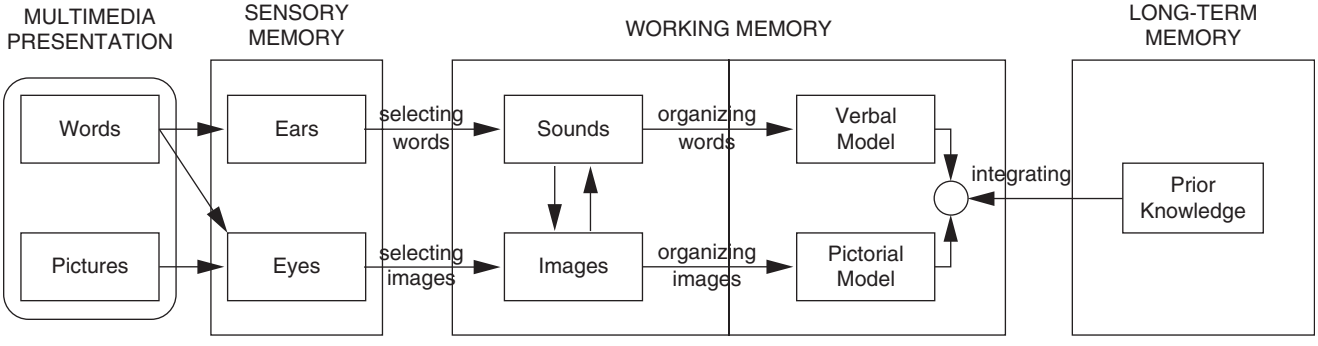


Figure 3 Architecture of the Human Information Processing System

Source: Mayer, Heiser, and Lonn (2001). Reprinted with permission from the American Psychological Association.

Table 1 How Is a Computer Like a Human?

Domain	*Computers*	*Humans*
Learning	Information is input into computers.	Information is presented to humans.
Memory	Computers store information in memory and retrieve information from memory.	Humans store information in memory and retrieve information from memory.
Cognition	Computers perform computations on the stored information.	Humans apply cognitive processes to mental representations.

Two Versions of the Information Processing Perspective

The fundamental elements in the information processing approach are the distinction between the concept of information (i.e., mental representations) and the concept of processing (i.e., cognitive processing), but researchers can differ in how they conceptualize this. Thus, although the information processing perspective can take different forms, most information processing models can be classified as the classic view or the constructivist view, based on how they conceptualize the nature of mental representations and the nature of cognitive processing.

As shown in the top row of Table 2, in the classic view, human cognition consists of applying operations to information. As proposed in information theory, information is an objective commodity that exists in the same form in the outside world as in someone's mind. For example, knowing whether a digit is a 0 or 1 provides the same piece of information whether it is represented on a piece of paper, in a computer's memory, or in a human's memory.

Table 2 Two Versions of the Information Processing View

Version	*Mental Representations*	*Cognitive Processing*
Classic view	Information	Applying operations
Constructivist view	Knowledge	Selecting, organizing, and integrating knowledge

As proposed in computer simulation models, an operation is a precise algorithm (or procedure) that for any given input will always give the same output. For example, using arithmetic operations, inputting 2 + 3 always gives you 5 as the output. The classic view can be commended for its precision, but it can be criticized on the grounds that it reduces human cognition to symbol manipulation.

In contrast, as shown in the bottom half of Table 2, in the constructivist view people engage in knowledge construction by selecting important pieces of incoming sensory information, mentally organizing them into coherent mental representations, and integrating them with relevant prior knowledge. In short, learning, remembering, and thinking are sense-making activities in which a new cognitive structure is created. In the constructivist view, mental representations are knowledge structures that are constructed by the learner rather than transmitted from the environment, and cognitive processing involves activity aimed at building knowledge structures, such as selecting, organizing, and integrating. The constructivist view can be criticized for its lack of precision and commended on the grounds that it restores human cognition to a sense-making activity, consistent with earlier musings by Bartlett (1932), Piaget (1971), and the Gestalt psychologists. An important goal of cognitive science has been to meld an approach that has the theoretical authenticity of the constructivist view and the methodological precision of the classic view.

What Is the Cognitive Revolution?

Table 3 summarizes three visions of how the mind works for learning and remembering—*response strengthening*, *information acquisition*, and *knowledge construction*. When scientific psychology began in the late 1800s, the dominant view of how the human mind works was borrowed from a 2,000-year-old tradition of associationist theory in mental philosophy. According to this view, labeled as "Response strengthening" in the top row of the table, learning involves strengthening and weakening of stimulus–response associations, based on the consequences of the learner's actions. According to this view, remembering involves following a chain of associations from the stimulus to the most strongly associated response. Although the response strengthening view dominated psychology for the first half of

Table 3 Three Visions of Learning and Remembering

View	*How Learning Works*	*How Remembering Works*
Response strengthening	Strengthening or weakening associations	Following a chain of associations
Information acquisition	Adding information to memory	Retrieving information from memory
Knowledge construction	Building cognitive structures	Reconstructing cognitive structures

the 20th century, boosted in part by its methodological precision and affordances for mathematizing human cognition, it has been criticized for difficulties in explaining how people create novel solutions to problems they have not seen before and for its focus on rats and pigeons rather than humans.

The cognitive revolution in the 1950s and 1960s propelled a competing view to prominence based on the challenges of explaining how humans learn rather than how lab animals learn—the information acquisition view. As shown in the second row of the table, according to the information acquisition view, learning involves putting information into memory, and remembering involves taking it out. By the 1970s and 1980s, a modified version came to prominence; it was based on the challenges of explaining how the mind works in authentic contexts rather than on contrived laboratory tasks—the knowledge construction view. As shown in the third row of the table, learning involves building mental representations by integrating incoming information with existing knowledge rather than building up the strength of memory traces. In addition, remembering involves reconstructing one's knowledge rather than simply plucking a memory trace from memory.

An emerging modification is the social constructivist view, which holds that knowledge construction can be influenced by the social context in which it occurs, such as through discussion. This mild version of social constructivism can be seen as an extension of the third row in the table.

The Crucial Work in the Late 1950s

The year 1956 is often listed (sometimes along with 1957) as the turning point for the cognitive revolution, as reflected in the convergence of several important publications: Miller's (1956) "magical number seven" review of performance on classic lab tasks, showing that humans consistently displayed a limited capacity for cognitive processing in what is now called working memory (which seemed to be able to hold in attention seven chunks of information, plus or minus two chunks); Bruner, Goodnow, and Austin's *A Study of Thinking* (1956), showing that unlike lab animals, which appear to strengthen and weaken responses in discrimination learning tasks, humans tend to construct and test hypotheses in concept learning tasks; Chomsky's *Syntactic Structures* (1957), showing that the field of linguistics could be improved by considering how language utterances are represented in the learner's mind (as deep structure) rather than simply based on formal syntactic rules (as surface structure); and the first influential computer simulation of complex thinking reported by Newell and Simon (1956).

Although the 1950s marked the beginning of the cognitive revolution, there were earlier musings about an alternative to the idea that the mind mainly involves the strengthening and weakening of associations. Bartlett (1932) offered a cognitive view by demonstrating that people interpret stories to fit with their existing schemas both at the time of learning and at the time of remembering. Similarly, Piaget (1971) demonstrated how children's learning and development can be viewed as assimilating incoming information to existing schemas (or accommodating it by constructing new ones), rather than as building associations. Gestalt psychologists and their forerunners showed that creative problem solving involves building cognitive structures rather than following a chain of responses.

The Cognitive Revolution in Applying the Science of Learning to Education

The cognitive revolution can be seen as an attempt to address practical problems (e.g., the educational question of how to help students learn to read, write, or do arithmetic) and theoretical problems (e.g., how learning works). Stokes (1997) uses the term *use-inspired basic research* to characterize research that has both theoretical and practical implications, in contrast with pure basic research (with no practical goal) or pure applied research (with no theoretical goal). In attempting to apply the science of learning to educational problems, the cognitive revolution is shaped by the dual goals of building a science

of instruction (i.e., in response to practical problems in the real world) and building a science of learning (i.e., by extending learning theory to account for authentic learning situations). In short, practical problems helped create the cognitive revolution by challenging psychologists to explain learning, memory, and cognition beyond the confines of contrived lab tasks.

Reciprocally, the cognitive revolution contributed to solving practical problems in education by helping spawn psychologies of subject matter, such as in reading, writing, and arithmetic. In reading, for example, cognitive research shows that learning to read printed text depends on students being able to engage in the cognitive processes of detecting and producing each of the sound units of their language—which has been called *phonological awareness*. In writing, cognitive research shows that proficiency in writing essays depends on students being able to engage in the cognitive process of generating and organizing ideas—which has been called *planning*. In arithmetic, cognitive research shows that learning to add and subtract depends on students being able to conceptualize and manipulate a *mental number line*. In short, cognitive research helped identify phonological awareness as a readiness skill for learning to read, planning as a readiness skill for writing, and the mental number line as a readiness skill for arithmetic.

Contributions of the Cognitive Revolution

The following are some contributions of the cognitive revolution and the information processing view it instigated.

1. The cognitive revolution involved a move away from a focus on behavior to a focus on the mind and from associationist conceptions of how the mind works to an information processing view. Humans are viewed as active processors of information rather than passive recipients of rewards and punishments.
2. The cognitive revolution instigated a unified and powerful framework for explaining learning, memory, and cognition, based on flow chart models with memory stores as boxes and cognitive processes as arrows. A particularly important aspect of the information processing model is that working memory is limited in capacity—a conception that has crucial implications for learning, memory, and cognition.
3. The cognitive revolution created a lasting change that has undergone several important adjustments in the course of the past 50 years, including a constructivist conception of how information processing works. This long-lasting conception has stimulated useful research in the field.
4. The cognitive revolution highlighted the role of mental representations and cognitive processing in mental life, and led to clearer descriptions of the role of knowledge and processes in the performance of cognitive tasks.
5. The cognitive revolution highlighted the role of cognitive processing in mental life and, as with mental representations, led to clearer descriptions of the role of knowledge processes in the performance of cognitive tasks.
6. Finally, the cognitive revolution fostered a transition from research on lab animals to research on humans and, eventually, from research with contrived lab tasks to research on authentic tasks.

Limitations of the Cognitive Revolution

Some of the limitations of the cognitive revolution are the following:

1. The cognitive revolution did not explicitly consider the role of affect, interest, and motivation or the role of social, cultural, and evolutionary factors. By focusing solely on cold cognition, the information processing model was incomplete.
2. The cognitive revolution did not initially take advantage of research in neuroscience, but current work in cognitive neuroscience is addressing this shortcoming.
3. The cognitive revolution did not adequately address the role of executive control in the information processing system, such as metacognitive awareness and control of the information processing system.
4. The cognitive revolution initially viewed mental representations as objective information rather than as constructed knowledge.
5. The cognitive revolution initially viewed cognitive processing as applying algorithms rather than as constructing knowledge.
6. The cognitive revolution initially focused on contrived laboratory tasks rather than on authentic, real-world tasks.

However, as the information processing approach has matured, progress has been made in overcoming each of these shortcomings.

What Is the Future of the Cognitive Revolution?

The cognitive revolution and the model of information processing it inspired represent an important step in creating an alternative to associationist conceptions of how the mind works. Born in the 1950s and in the 1960s, the information processing model has proved to be a remarkably useful, resilient, and adaptive intellectual force in psychology. This resiliency can be seen in the way the information processing model has morphed from the classic view (in which information is manipulated) to the constructivist view (in which knowledge is constructed), in response to challenges to explain learning and cognition in authentic situations, or what can be called "applying the science of learning." The resiliency can be attributed to the way the information processing approach offers a general framework (or language about cognitive processing) into which current theories can easily fit.

What does the future hold for the cognitive revolution and its information processing perspective? The information processing perspective is challenged on the left by radical social constructivism, on the right by cognitive neuroscience and computational modeling, and from the past by the unfinished business of Gestalt psychology.

Challenges From Radical Social Constructivism

First, the cognitive revolution faces challenges on the left from radical social constructivism, which holds that knowledge is stored and processed solely in social groups rather than in individual minds. Instead of enriching or extending the information processing model, radical constructivism calls for its complete elimination along with cognitive science. Although there is some empirical evidence for the mild version of social constructivism (which holds that people working together can help each other learn and solve problems), there is little empirical or logical support for the radical version (which, like the behaviorists of yesteryear, banishes cognitive processing from human minds).

Challenges From Reductionism

Second, the cognitive revolution faces challenges on the right from the forces of reductionism—in the guise of replacing psychology with either neuroscience or mathematics, or perhaps both. Although cognitive neuroscience has potential to help test and refine the information processing model in ways not available through purely behavioral research, the cognitive revolution is threatened by attempts to replace the mind with the brain, replace cognitive processes with ERP (event-related potential) patterns, and replace knowledge structures with fMRI (functional magnetic resonance imaging) images. Throughout its more than 100-year existence, psychology has faced the constant threat of being reduced to biology. Although understanding how the human mind works can be informed by biology, it should not be replaced by it.

Similarly, the history of the cognitive revolution is replete with attempts to mathematize human mental life, sometimes as equations (Hull, 1943) and sometimes as computer programs (Newell & Simon, 1972). However, although equations and computer programs can be helpful in clearly rendering various cognitive theories, they are tools for representing theories about information processing rather than the theories themselves.

Challenges of Unfinished Business

Finally, the constructivist version of the information processing view, which currently is the dominant view, has its roots in the classic vision of learning and cognition as structure building. The structure building notion is reflected in Bartlett's (1932) vision of learning as assimilation to schema, Piaget's (1971) notion of cognitive development as assimilation and accommodation of schemas, and Gestalt notions of perception and cognition as mentally reorganizing elements into a coherent structure. In some ways, today's vision of human mental life as consisting of structure building—that is, constructing schemas—represents a return to the unfinished business of Gestalt psychology. In short, the information processing approach is poised to address the enduring challenge of understanding the cognitive processing involved in building cognitive structures, which underpin human understanding.

In a stinging critique of Gestalt approaches to mental life written nearly 60 years ago, Estes (1954) asked why it is that, if Gestalt theories based on understanding and meaning and organization are so superior, "the most superior theories of learning have had the least influence upon research" (p. 341). Estes's critique still has the ring of truth

today, because over the years, research based on the classic version of information processing has yielded a much larger research base than research based on the constructivist version of information processing. Yet as the information processing approach continues to develop in the 21st century, it may finally prompt the rigorous and innovative research needed to better understand the role of structure building in learning and cognition.

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See also Associationism; Behaviorism; Bruner, Jerome; Chomsky, Noam; Cognitive Load Theory and Learning; Distributed Cognition; Insight Learning; Metacognition; Neurosciences and Learning; Piaget, Jean; Pure and Applied Research and *Pasteur's Quadrant*

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Coleman Report

On July 2, 1966, the U.S. Commissioner of Education, Harold Howe II, submitted to the president and the Congress a national report, Equality of Educational Opportunity, usually referred to as the Coleman Report after its lead researcher, the Johns Hopkins University sociologist James S. Coleman. The report was a response to a congressional mandate in Section 402 of the Civil Rights Act of 1964:

> The Commissioner shall conduct a survey and make a report to the President and the Congress, within two years of the enactment of this title, concerning

> the lack of availability of equal educational opportunities for individuals by reason of race, color, religion, or national origin in public educational institutions at all levels in the United States, its territories and possessions, and the District of Columbia.

This entry discusses how the national survey that led to the findings was conducted, why the report was considered groundbreaking, the findings of the report, and its ongoing legacy.

Coleman assumed primary responsibility for survey design and data analysis for the project overall; the report was commonly referred to as the Coleman Report. The survey was collected by Ernest Campbell at Vanderbilt University. Campbell played a key role in conducting the surveys in higher education. The survey team study also received advice from an 18-member national advisory committee made up of six urban school superintendents, two presidents of historically Black institutions of higher education, and one state education commissioner.

The national survey, which had an overall response rate of about 70%, was a major undertaking even by today's standard. Data were collected during September and October 1965. The sample included about 60,000 teachers and administrators as well as 600,000 students in 1st, 3rd, 6th, 9th, and 12th grades in more than 3,000 schools across the nation. Survey response was somewhat uneven across regions, with about 60% and 80% of nonurban schools in the South and the North participating, respectively.

The Coleman Report marked the beginning of a new era for social science research in addressing key societal concerns. Coleman went beyond simply providing descriptive statistics by applying statistical methods for inferences. As high-speed computers became more readily available to the social science community in the mid-1960s, Coleman and his associates were able to make use of the advantages of surveys with large sample sizes and multiple variables at multiple levels of the school organization. In reviewing Coleman's contributions to the study of education issues, James Heckman and Derek Neal observed that the research of the Coleman Report "demonstrated the value of large-scale data sets and empirical social science for evaluating social programs" (Heckman & Neal, 1996, p. 84).

The Coleman Report offered a systematic look at the status of equality of opportunity in public education in the mid-1960s. The data collection focused on six racial and ethnic groups. These groups, using the social categories in 1965, were Negroes, American Indians, Oriental Americans, Puerto Ricans living in the continental United States, Mexican Americans, and Whites.

The report found that public education was racially segregated. In the South, the report found that "most students attended schools that are 100 percent white or Negro." In 1965, 54% of the Black school-age population lived in the South. At the national level, about two thirds of all Black students attended schools that were racially isolated, with Black students making up at least 90% of the student body. Eight out of 10 White students were enrolled in racially isolated schools with at least 90% White students.

Using disaggregated data across different racial and ethnic groups, the survey showed a significant and persistent majority–minority achievement gap over the course of schooling. At the first grade, minority students on average scored at one standard deviation below their White peers. This initial achievement gap, however, worsened as the grade progressed. For example, while Black sixth graders were 1.6 years behind their White peers in achievement, the former was 3.3 years behind the latter at 12th grade.

The Coleman Report was groundbreaking not only because of its extensive treatment on an important societal challenge but also because of its empirical examination of the relationship between school-based resources and student achievement. In this regard, the report challenged the conventional understanding of a straightforward, positive relationship between school resources and student achievement. In a 1983 interview, Coleman reflected on the different approach:

> Ordinarily, quality of schools had been defined in terms of inputs to the schools. We asked about outputs, using achievement outputs as criteria for judging the relative quality of schools. Even though that was not exactly a result, I think it had an important effect in reshaping the way in which educational research questions were asked after EEOC [Equality of Educational Opportunity]. (quoted in Barber, 1987, p. 34)

Although the report's analytical design and methods have been scrutinized by succeeding generations of policy analysts and social scientists, the main research questions posed by Coleman and his

associates on the relationship between inputs and outputs remain relevant. The report offered an empirical approach to measure the types of inputs that were assumed to affect schooling outputs. In this regard, key findings of the Coleman Report would influence how policy analysts and policymakers think about the nature of equal educational opportunities.

Coleman and his associates found that school resources, including school facilities, curriculum, and teacher quality, did not show overall statistically significant effects on student achievement. According to the report,

> Differences in school facilities and curriculum, which are the major variables by which attempts are made to improve schools, are so little related to differences in achievement levels of students that, with few exceptions their effects fail to appear even in a survey of this magnitude.

School resources, however, were found to have some positive effects on student achievement for Black students. Variations in teacher quality were found to have a cumulative effect on student achievement over the years, and these effects were greater for racial minorities than for White students. Teachers' verbal scores and educational backgrounds, for example, had a positive effect on achievement for minority students in the upper grades. For the whole student sample, including White and minority students, there was a general lack of significant effects of teacher characteristics, as measured in terms of teacher quality, teachers' family education level, teachers' own education, and teachers' score on a vocabulary test.

Variations in school facilities, including science laboratories, showed positive effects on Black student achievement. Resource variations did not generate significant effects for White students. As the report stated, "It is for majority whites that the variations make the least difference; for minorities, they make somewhat more difference." In other words, resources seemed to have differential effects on different racial groups.

The Coleman Report also made another important contribution by showing the differential effects of racial backgrounds on student achievement. The report found a strong relationship between the social composition of schools and student academic achievement. As the report observed, "Attributes of other students account for far more variation in the achievement of minority group children than do any attributes of school facilities and slightly more than do attributes of staff." The report further clarified that higher student achievement was associated with a more diverse student body that encompassed diverse educational backgrounds and aspirations. As the report explained,

> The higher achievement of all racial and ethnic groups in schools with greater proportions of white students is largely, perhaps wholly, related to effects associated with the student body's educational background and aspirations. This means that the apparent beneficial effect of a student body with a high proportion of white students comes not from racial composition per se, but from the better educational background and higher educational aspirations that are, on the average[,] found among white students.

This second major finding on social composition has played an important role in forming the empirical basis for those who advocated for racial integration in public schools.

Since its publication almost 50 years ago, the Coleman Report has generated broad interest and debate on the effects of schools and families on student achievement. Generations of scholars in sociology of education and education policy have debated the report's scholarly and policy impact. The report's findings have inspired doctoral dissertations, foundation grants, and governmental intervention. Many studies, with growingly sophisticated research design over time, have questioned whether the Coleman Report has underestimated the effects of schooling conditions on student achievement, whether the sampling procedures were properly handled, whether the implications on racial integration were exaggerated, and whether the survey response rate was sufficient, among other concerns. At the same time, many more studies continued to recognize the groundbreaking contributions of the report on understanding equal opportunities in public schools. Clearly, the work of the Coleman Report remains just as relevant today in our growingly diverse society as it was half a century ago.

Kenneth K. Wong

See also Achievement Gap; Equality of Educational Opportunity; Legal Decisions Affecting Education

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Colonialism and Postcolonial Theory

In its current form, postcolonial theory has emerged out of what has been called the "cultural turn" in the social sciences, although the term *postcolonial* itself has a longer history. It was widely used by historians after World War II to designate the postindependence period. In this sense, postcolonialism has a chronological meaning, referring to national formations after the colonial period had formally ended. Since the 1970s, however, postcolonial theory has involved debates over the manner in which colonial experiences are represented and about the ways in which European colonization has left residual and persistent effects on both the colonized and colonizing people. Located largely in the disciplines of literary and cultural studies, recent postcolonial theory has been used to interrogate the discursive origins of colonial rule, drawing on a longer tradition of critical, anticolonial theorizing, on the one hand, and on newer poststructuralist resources of philosophizing, on the other. In this way, postcolonialism has demanded a rethinking of knowledge and social identities authored and authorized by colonialism. Applied to education, postcolonial theory emphasizes the importance of understanding the link between globalization and education—namely, that educational policies and practices are always to be understood in terms of the historical legacy and the emerging cultural forces specific to a given locale.

Theoretically, postcolonialism draws attention to the ways in which language works in institutionalizing various colonial relations of power. It is thus based on a theory of meaning that views language in terms of its performance functions, assuming discourse and power to be inextricably linked. This does not imply there is nothing "outside the text," as some strands of thinking in poststructuralism appear to suggest. Rather, postcolonialism points to the ways in which social texts are shaped by a range of economic and political forces and interests at various levels of practice. Postcolonialism's aspirations are thus not only theoretical but also political. Postcolonial analysis seeks an understanding, for example, of the manner in which global inequalities are perpetuated both through the distribution of resources and through neocolonial modes of representation. In political terms, such an analysis, it is argued, has the potential to suggest ways of resisting colonial power in order to forge a more socially just world order. Rather ambitiously, Robert Young argues that "postcolonialism seeks to change the way people think, the way they behave, to produce a more just and equitable relation between different peoples of the world" (Young, 2003, p. 7).

Colonial Discourse: The Influence of Edward Said

Although the historical origins of postcolonial theory are contested, Edward Said is often cited as a central figure in its development. In his book *Orientalism* (1979), Said uses the Foucauldian insights concerning the nexus between knowledge and power to provide a theoretical account of how knowledge about the "Orient" was produced and circulated as an ideological accessory to colonial power—that is, how European representations of non-European cultures were used as instruments of power and how many of these representations continue to inform contemporary economic, political, and social practices. Said uses the notion of discourse to reconceptualize the study of colonialism. He shows how representations of the "Orient" in European literary texts, travelogues, and other writings contributed to the creation of a binary between Europe and its "others" and how colonial discourse has been fundamental to the maintenance and extension of European hegemony over other lands, through a range of normalizing

assumptions about European superiority over the groups of people Europe colonized.

It is important to note that *colonial discourse* is not simply a new term for colonialism. Rather, it suggests a new way of thinking about how economic, cultural, political, and educational processes work together in both the creation and the perpetuation of colonialism, on the one hand, and in the organization of resistance to it, on the other. The scope of the studies of colonial processes is thus widened to include an interrogation of the intersection of ideas and institutions, and knowledge and power. As Ania Loomba (1998) points out, colonial violence can now be understood as including an "epistemic" dimension—an attack on the ideas, values, and cultural institutions of the colonized peoples (p. 54). A postcolonial examination of colonial discourse thus requires an assessment of how stereotypes, images, and various cultural generalizations are linked to the institutions of economic, judicial, and administrative control, including control exercised through schools, colleges, and universities.

A significant body of literature now exists that demonstrates the ways in which such generalizations are shaped by colonial assumptions. For example, in most colonial texts, Europe is represented as the place of historical progress and scientific development, while colonized cultures are deemed to be remote from enlightened historical shifts. From the perspective of European norms, colonized cultures are assumed to be peculiar—unusual, fantastic, and bizarre. Ultimately, these portrayals serve as markers of Oriental inferiority, while the West is assumed to be sensible, rational, and familiar. Non-European cultures are moreover represented in terms of various invidious racial stereotypes, such as the violent Arabs, lazy Indians, and inscrutable Chinese. The colonial discourse also involves popular stereotypes of the effeminate Oriental male and the sexually promiscuous Oriental female.

Responses to Said: Bhabha and Spivak

As influential as Said's discussion of the nature of colonial discourse has been, it has evoked a whole range of critical responses and elaborations. A number of subsequent theorists have been critical of the universalizing tendencies in Said's account of Orientalism. According to Homi Bhabha (1994), for example, colonial discourses are often more ambivalent, and much less resolute, than is implied in Said's analysis. Bhabha refuses to interpret identity and difference in essentialist terms, conceptualizing them instead in terms of the overlapping, migratory movements of cultural formations across a global division of labor. He highlights the "in-between" categories of competing cultural differences and suggests that postcoloniality always involves the "liminal" negotiation of cultural identity across differences of race, class, gender, and cultural traditions. He argues that cultural identities cannot be ascribed pregiven, irreducible, scripted, and ahistorical cultural traits. Nor can the "colonizer" and the "colonized" be viewed as separate entities that define in terms that are independent of each other.

For Bhabha (1994), identity is always "hybrid," produced performatively in contexts that are sometimes antagonistic and sometimes affiliative. He maintains that "the social articulation of difference, from the minority perspective, is a complex, ongoing negotiation that seeks to authorize cultural hybridities that emerge in moments of historical transformation" (p. 23). Bhabha thus refuses to view colonial power in an absolute sense, always guaranteed to produce the intended effects in the colonial subjects. Instead, he believes that it involves subversion, transgressions, insurgence, and mimicry.

In this way, Bhabha accords considerable importance to the colonized subject's linguistic agency.

The question of the extent to which it is possible for colonial subjects to enact this agency is central to the work of Gayatri Spivak (1988). She argues that the capacity of the colonized subject to resist may itself be constrained by the linguistic power of the dominant group, along with the incapacity of the powerful to hear the voice of the subaltern. She cautions against the claim that it is always possible for the postcolonial historian to recover the voice of the subaltern, suggesting that this assumption underestimates the repressive scope of colonial hegemony and, especially, of the ways in which it has historically intersected with patriarchy. Spivak does not, however, entirely dismiss the desire of postcolonial intellectuals to highlight the nature and scope of the colonial oppression from the perspective of the marginalized people. Instead, she underscores the dual perspective embodied in Antonio Gramsci's description of himself as a pessimist because of intelligence, an optimist because of will.

For Bhabha, this politics is best captured by the notion of hybridity. It is in its hybrid forms that colonial knowledge can be reinscribed and given new, unexpected, and oppositional meanings, as a way of "restaging the past." This emphasis on

hybridization demolishes forever the idea of subjectivity as stable, single, and pure, drawing attention instead to the ways in which subjugated people can challenge exclusionary systems of meaning and thus disrupt the exclusionary binary logics on which discourses of colonialism, nationalism, and patriarchy depend. It is this insight that has inspired much of the recent works in postcolonial history, literature, and the arts, seeking ways to interrupt and challenge colonial ways of thinking about the world.

However, in these works, hybridity is often valorized. While it is true that the postcolonial condition is underlined by much variability; multivocality; and the processes of fuzziness, cut and mix, crisscross, and crossovers, suggested by the idea of hybridity, it is also the case that the processes of cultural hybridization are never neutral but involve a politics expressing issues of economic and cultural power. A celebration of syncretism and hybridity always runs the risk of obscuring the scope of colonial violence, unless it is articulated along with a critical focus on the issues of hegemony and neocolonial power relations. So while, as a theoretical idea, hybridity is a useful antidote to cultural essentialism, it cannot in itself provide the answers to the difficult questions of how hybridity takes place, the form it takes in a particular context, the consequences it has for particular cultural groups, and when and how particular hybrid formations are progressive or regressive.

Broader Critiques of Postcolonial Theory

Broader criticisms of postcolonial theory relate to the ways in which it privileges discourse over "concrete" phenomena such as economic and social conditions that remain the major sources of oppression and marginalization. Dirlik (1994) has pointed out, for example, that Said, Bhabha, and Spivak draw too heavily on Western poststructuralist thought, which has conceded too much ground by questioning oppositional discourses such as nationalism and Marxism, precisely at a time when such discourses are most needed to combat conflicts around the world. Other critics have objected to the impression that postcolonial theory appears to give an end to colonialism, instead of focusing on its more contemporary forms. According to Ahmad (1995), "Speaking with virtually mindless pleasure of transnational cultural hybridity, and of politics of contingency, amounts in effect, to endorsing the cultural claims of the transnational capital itself" (p. 12). Ahmad thus accuses postcolonial theory of being complicit with global capitalism, since its focus on discourse masks the question of the ways in which capitalism continues to use racial differentiations to pursue its objectives.

Achievements of Postcolonial Theory

While some of these criticisms of postcolonial theory clearly have merit, postcolonialism's achievements cannot be denied. Perhaps its key achievement is the insistence on the cultural dimensions of colonialism. It has shown that far from being secondary to economic formations, culture must be viewed as essential to the production and maintenance of colonial relations. It has suggested how new analytical strategies are needed for understanding both economic and cultural politics of colonialism without reducing one to another. Without such strategies, it may not be possible to understand how contemporary social conditions, such as those characterized by globalization, for example, demand reference to the continuities and discontinuities of colonialism.

Postcolonial theory has the potential to help us understand how the persistence of global inequalities, and the threats to the continued existence of local cultures and traditions by the global consumerist culture, is anchored in the traditions of Western colonialism. New information and communication technologies have enabled instantaneous circulation of information, ideas, and images, making it possible to conceive of the world as a single space shared by all of humanity. However, the routes of this circulation are seldom symmetrical and equal. They are shaped by the history of colonial discourses. Postcolonial theory raises the question of the extent to which the so-called global culture has reproduced the colonial patterns of inequalities.

Another major achievement of postcolonial theory has been the account of the dialectical relationship between the colonizers and the colonized. It has shown how the colonizers not only shape the cultural representations of the colonized but are also, in turn, shaped by colonialism in a range of complex ways. Nor can the colonized be regarded simply as innocent bystanders in their encounters with the hegemonic processes of colonization. Postcolonialism refuses to treat the colonized as "cultural dupes," incapable of interpreting, accommodating, and resisting dominant discourses. And so it is with contemporary global relations, which necessarily involve negotiation of cultural messages, even if this occurs in spaces that are characterized by asymmetrical power relations. Postcolonial theory

points to the inherent dangers in the analyses of contemporary cultural practices, which are overdetermined by global capitalism and regard globalization as historically inevitable.

Postcolonial theory is helpful in understanding contemporary educational formations in a range of ways—for example, in articulating the relationship between globalization and education. Postcolonialism stresses the need to avoid the universalistic impulse at the core of many conceptions of this relationship. If most education occurs at the local level, then, it suggests that local practices are connected to historical legacies as well as emerging cultural forces. However, these forces do not simply exist in some abstract fashion to simply be "read off" for their implications for educational policy and governance. They need to be understood historically and relationally. It is only through this kind of complex understanding that it is possible to recognize new modes of colonial power and to devise ways of resisting them.

Fazal Rizvi

See also Anthropology of Education: Main Traditions and Issues; Globalization and World Society; Postmodernism; Racism and Multicultural Antiracist Education

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Comenius, Johann Amos

Johann Amos Comenius (in Czech, Jan Amos Komensky; 1592–1670) is among the most influential figures in the history of education. He lived during a century when revolutionary changes were taking place in Europe: on the one hand, a series of highly destructive wars (the "Thirty Years' War"), which basically changed the political balance, impoverished large areas for decades, and deepened the schism between religious denominations, and, on the other hand, the emergence of the modern world—the territorial state, the mercantilist economy and industrial production, and the modern sciences.

Comenius was raised in the community of the Bohemian Brethren, a Protestant movement within the Catholic Habsburg territories of Bohemia and Moravia, now incorporated into the modern Czech Republic. He studied theology, served as a minister and schoolteacher, and later on became bishop of the Brethren. Beyond that, he was highly engaged in realizing a vision of peace, unity, and order in a world that he perceived as a chaotic labyrinth—as he described it in his *Labyrint světa a ráj srdce* (*Labyrinth of the World and Paradise of the Heart*, 1631). In his magnum opus, *De rerum humanarum emendatione consultatio catholica* (*General Consultation on an Improvement of All Things Human,* 1666), he worked out a way to heal the sufferings of the world. At the center of this work, Comenius deals with efforts to create order in all things that are totally disordered (*pansophia*), in all thinking that is entirely confused (*panpaedia*, meaning "universal education"), and in all the languages that are totally discordant (*panglottia*). This structure corresponds strictly to Comenius's pivotal concern, namely, education and languages. Comenius's *Weltbild* (concept of the world), and thus his theology and his philosophy, was grounded in the tradition of the community of the Brethren and in the universal scientific discourse of his time. He tried to bring things together: to work out a *pansophia*, an ordered encyclopedia of all that mankind knows and has experienced and which is based on a Christian concept of the world.

Comenius was the first to successfully organize all the available knowledge that humankind had accumulated and to turn it to the didactic purpose indicated in the title of his famous *Didactica Magna* (*Great Didactic*). His famous textbook the *Orbis Sensualium Pictus*, a language-picture textbook, is a telling example of this and one of the classics of education. In this book, the world, the circle (*orbis*) of Creation, is expressed symbolically in words and pictures, with the words explaining the pictures and vice versa. Thus, the world becomes teachable.

Looking back on his life, and to the miserable state of the church and the schools in his mother country, Comenius wrote in 1657, "Before all we should help the youth and establish schools as soon as possible, and provide them with appropriate textbooks and a precise teaching method in order to put their academic, moral, and religious efforts on the right path." So in his *Great Didactic* (setting forth the whole art of teaching all things to all men), he outlined a vision of a comprehensive school system. In Greek and Latin, Comenius plays on a little word: *pan*—omnis—*all*, that comprises philosophy in its entirety and his vision of education in particular.

In the *Great Didactic*, Comenius (1657/1907) argues in a way that is representative of his pedagogical argument:

> Artisans are accustomed to fix certain limits of time for the training of an apprentice . . . , according to the case or difficulty of the trade. . . . The same system must be adopted in school organisation, and distinct periods of time must be mapped out for the acquirement of arts, sciences, and languages respectively. In this way we may cover the whole range of human knowledge within a certain number of years. . . . The process should begin in infancy and should continue until the age of manhood is reached; and this space of twenty-four years should be divided into well-defined spaces. In this we must follow the lead of nature.

Artisans, nature, and—if helpful—the Bible are referenced in all of Comenius's arguments. The latter source is, of course, traditional; the former indicate the influence of emerging modern philosophy and sciences. For Comenius, these references are closely linked as there is one and the same logic behind them: the theologic of God's creation and the destiny of the world.

In his time, Comenius's name as educator stood for his language textbooks. Nowadays, one can interpret those famous books as part of a tripartite unity of a sequence of

- comprehensive schools, one building on another according to the students' age, with
- corresponding textbooks that present the entire world according to the order of God's creation, and
- books that guide a teacher in how to introduce youths into the world they occupy, a *didactic*.

The System of Schools (*Omnes*—for All)

According to Comenius, the school system looks like this: "The whole . . . must be divided into four distinct grades: infancy, childhood, boyhood [*sic*], and youth." The schools should be *the mother's knee*, *the vernacular school* (our elementary school), *the Latin school or gymnasium*, and *the university and travel*—in every house, every village, every city, and every kingdom, respectively. This picture mirrors the schools of the 17th century in Europe. Comenius put things together into a system of comprehensive schools for all, which is theoretically consistent. This vision was far from being realized in his time; but the idea has encouraged educational reformers down to the present, particularly in countries with noncomprehensive school systems.

The Knowledge (*Omnia*—All Things)

In his lifetime, Comenius was famous for his textbooks or, more precisely, for his language books. Above all, his *Janua linguarum reserata* (*The Open[ed] Door to the Languages*) established his fame. The book's pattern has been well known through the centuries. In this textbook, as well as in all the others, the world is represented symbolically by means of languages, Latin being the lingua franca. (In particular, Comenius rendered outstanding services to the Czech language, his mother tongue.)

Comenius's idea was to elaborate one appropriate textbook for each of the types of school that he had outlined. The best known, even in our own day, is the *Orbis Sensualium Pictus* (*The World in So Far as We Can Conceive It With Our Senses*). This textbook was designed for the *mother school*, the school "for infancy that should be the mother's knee." In this book, Comenius represents the entire circle of the world, the *orbis*, in words and in pictures. A closer look into this primer discloses Comenius's didactic philosophy: First of all, his textbooks are more than mere dictionaries; rather, they tell stories about the world as it reveals itself to the human senses. These stories are about nature and human life, and they are embedded in a concept of what use to make of things and how to act humanely in human society. The introduction to his *Unum Necessarium* (*The One Thing Needful*) gives the principle of selection, composition, and presentation of things in all of his language-matter books—all "what every human really needs for this transitory life, under the guidance of sane senses and the word of God."

A second point to be made is that the manifold of human knowledge is ordered according to the lives of humans in this world, which prepares them for their eternal life. The *Orbis Pictus* is intended to be a persuasive demonstration of Comenius's basic philosophy, and it is therefore a key to the understanding of the bulk of his didactic writings:

- Its title could also be translated as "The *world as God's creation* in pictures."
- The content itself is framed according to a Christian *Weltbild:* The book begins with God and His Creation; the last picture is the Last Judgment.
- The entire matter in turn is explicitly framed didactically through an invitation ("Come boy, learn to be wise") and a *clausula* (conclusion: "Thus thou hast seen in short, all things, that can be shown, and hast learned the chief Words of the English [German, Czech etc.] and Latin Tongue. Go on now and read other good Books diligently, and thou shalt become learned, wise, and godly"). Furthermore, the corresponding pictures are identical, a fine example of the pictures' message.

The Method (*Omnino*—Throughout)

In the course of developing his didactic, Comenius first of all refers to the Bible and to the ancient philosophers and theologians. This way of arguing was an age-old practice and a sort of legitimation of his argument by recourse to generally accepted authorities. But when it came to the substance of his teachings, he followed the philosophical reasoning of his time—that of the emerging philosophy of the Enlightenment. In the words of René Descartes (with whom Comenius occasionally visited),

> I perceived it to be possible to arrive at knowledge highly useful in life; and . . . to discover a practical [philosophy], by means of which, knowing the force and action of fire, water, air, the stars, the heavens, . . . as distinctly as we know the various crafts of our artisans, we might also apply them in the same way to all the uses to which they are adapted, and thus render ourselves the lords and possessors of nature. (*Discourse on Method*, Part VI)

In this sense, Comenius's textbooks—for all schools or grades—were up to date for his times. But what is more, Comenius adopted as a theoretical foundation for education the method Descartes claimed for mathematics, biology, and the like.

Conclusion

Whosoever worked out a didactic after Comenius in a strict sense came to almost the same principles and practical advice we find in Comenius's works. A prominent example is the Latin maxim *repetitio est mater studiorum* ("repetition is the mother of study"), which has been repeated in one form or another down to the present day. But the underlying *Weltbild* differs: Soon after Comenius, the theological one was replaced with the concept of Enlightenment.

So, for example, in Johann Bernhard Basedow's famous *Elementary Work* (1787), the matter is anthropocentrically organized; its copper plates–engraved illustrations follow a human's path from birth to death instead of presenting the history of the salvation of mankind. Furthermore, it is not the "world" as such that the *Orbis Pictus* and Comenius's other textbooks represent symbolically. It is rather the world of the Brethren, the world as seen with the eyes of a prominent member of that proto-bourgeois community. (Schoolbooks generally represent the specific *Weltbild* of a given society.) The didactic maxims are alike over the centuries, for they are always about teaching and learning. Nevertheless, there is a lesson didacticians have learned from Comenius and still can learn nowadays: Didactical reasoning and practical advice make sense only if grounded in a concept of human destiny.

Peter Menck

Note: This entry is based on a chapter of Menck, P. (1999). *Geschichte der Erziehung*. Donauwörth, Germany: Auer.

See also Pestalozzi, Johann H.; Rousseau, Jean-Jacques

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Common Curriculum

The idea of a common curriculum is best grasped by contrast with differentiated, selective, or alternative curricula. Generally, differentiated curricula are grounded in the contingent personal, social, or other local circumstances of learners. Perhaps, the most famous defense of a selective or differentiated curriculum is to be found in Plato's *Republic*, where this philosopher distinguishes between persons of gold, silver, and bronze who are fitted by natural ability—and correspondingly appropriate education—to be, respectively, the ruling legislators (guardians), the administrators (auxiliaries), and the ruled workers of his ideal society. A well-known advocate for a common curriculum, on the other hand, was Mortimer Adler in the United States, who argued in the 1980s that the best education for the "best" in society was the best education for all—all students should embark on the same curriculum, although some would not progress as rapidly or as far as others. This common curriculum was a heavily academic one and represented—as Michael Apple put it—the "official knowledge" endorsed by a particular social class, the ruling elite. This entry first reviews the evolution of the common curriculum and then examines the philosophical assumptions that underlie it.

The idea that the educational course of study should not be uniform, but vary according to individual ability and/or social need, was historically influential; in Britain, for example, it was writ large in the 1944 Education Act, which assigned pupils, on the basis of examinations at age 11, to different sorts of academic (grammar) and vocational (secondary) schooling according to their "abilities and aptitudes." However, by the 1960s, such educational apartheid was widely seen as individually and socially unjust and divisive, and there was a major political shift in the United Kingdom toward abolition of the selective "11+" examination and the establishment of the so-called comprehensive schooling for all. In the United States, the situation was different; development of comprehensive high schools allowed a diverse range of options to appear on the curriculum—a "cafeteria" type of situation that arguably led to Adler's reaction in favor of a common curriculum and, eventually, culminated in the movement in the 21st century for common or core curriculum standards.

Eventually, experience with comprehensive schools in Britain led in the same direction. Although widespread, the shift to comprehensive schooling in the United Kingdom was not immediately attended by curriculum change—pupils of different ability largely pursued more or less distinct and separate courses of academic and vocational studies under the new comprehensive school roof. And so curriculum theorists and policymakers were drawn toward revision of such segregated courses in favor of a new comprehensive curriculum that might be pursued in common by *all* pupils (without "special needs"). From a philosophical viewpoint, however, it was clear that any such curriculum would need to be grounded in some defensible conception of common educational need that transcended the contingencies of individual psychological difference (of interest or ability) or local social convenience. The remainder of this entry will focus on the interesting philosophical arguments that emerged.

Despite widespread approval of comprehensive education in the name of justice and equality, it could not be fair to subject all pupils to the same educational treatment, if such equal treatment was more appropriate to some than others. Thus, the pressing question for curriculum theorists was that of finding a defensible rationale for common educational provision for pupils of widely varying intellectual range and socioeconomic status and background.

It was in the context of nascent comprehensive schooling in the United Kingdom that a number of postwar British educational philosophers—broadly located in an educational tradition harking back to 19th-century liberal educationalists such as Matthew Arnold and mostly located in the London Institute of Education—developed a view of education focused on the acquisition of a range of forms of knowledge and understanding held to be constitutive of a rational human mind. (It is interesting that a literature of similar complexity and sophistication did not emerge among philosophers of education in the United States, although political theorists such as Michael

Apple were quite prolific.) While the basic idea was pioneered by Louis Arnaud Reid (first incumbent of the chair of philosophy of education at the London Institute) in a book titled *Ways of Understanding and Education*, the notion was further developed by Paul Hirst in his widely influential paper "Liberal Education and the Nature of Knowledge" and given more practical curricular application by John P. White in his book *Towards a Compulsory Curriculum*. To be sure, such authors did not agree on all points, and there were parallel—and variable—developments of this general theoretical trend in other countries; but there was clearly enough common ground here to distinguish such thinking about a common curriculum from previous tendencies toward segregated and differentiated curricula.

To begin with, the basis of most, if not all, of such theorizing was *epistemological* rather than psychological, sociological, or political: It began from reflection on the nature and value of *knowledge* as the key goal of educational endeavor. In this light, the mind-constitutive forms of knowledge were to be regarded as of *intrinsic* more than extrinsic educational value; the (much misunderstood) point here is that if education is broadly construed as the development of rational minds, then the forms of knowledge are not mere *means to* education, they are what we *mean by* education. But then, all school pupils (apart from those with serious learning difficulties) should be considered equally entitled to educational exposure to the forms of knowledge and understanding required for the development of their rational mind.

It is crucial here to distinguish the epistemic notions of rationality and knowledge from the psychological notions of intelligence and ability—since, to be sure, agents may be intelligent but not very rational, or vice versa. On this view, it is not the job of education or schools to increase or develop intelligence (whatever that might mean); rather, it is to help all pupils acquire—to the best of their given abilities—those rational forms of knowledge and understanding whereby they may make meaningful sense of their world. According to Hirst and others, this would require some initiation of *all* pupils into the time-honored forms of human knowledge and understanding enshrined in scientific studies, logic and mathematics, human sciences, moral inquiry, artistic and aesthetic appreciation, and religious and philosophical studies. The first significant British (if not global) attempt to develop a new common curriculum for the comprehensive school, drawing explicitly on Hirst's forms of knowledge, was outlined in the Scottish Munn Report in 1977 and thereafter implemented in Scottish schooling in the form of the "Standard Grade" curriculum. Common curricula conceived broadly along these lines have since been developed in England and other countries.

Although much discussion of common curricula has focused on the pros and cons of a "common *compulsory* curriculum"—reflecting the fact that many, if not most, of latter-day common curricular developments (e.g., in the United Kingdom and the United States) have been subject to state mandate as "national curricula"—the philosophical issue of whether a common curriculum is educationally defensible and the political issue of whether it should be nationally or otherwise compelled are in principle separable issues. That said, it is not hard to see how philosophical commitment to the idea that *all* children are entitled to a common (at least core) educational experience has invariably led, for good or worse, to political efforts to secure such entitlement through state legislation.

David Carr

See also Apple, Michael; Continental/Analytic Divide in Philosophy of Education; Cultural Literacy and Core Knowledge/Skills; Dewey, John; Knowledge, Structure of: From Aristotle to Bruner and Hirst; Peters, R. S.; Plato; Scheffler, Israel; Wittgenstein, Ludwig

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Common School Movement

See Schooling in the United States: Historical Analyses

Communicative Action

See Critical Theory

Communitarianism

Communitarianism can be considered as being a thesis about the social construction of the self; that is, the individual self cannot be understood as separate from the social relations in which it is situated. For communitarians as diverse as Jürgen Habermas, Seyla Benhabib, Amy Gutmann, Iris Marion Young, Martha Nussbaum, Stanley Cavell, Eamonn Callan, and Jacques Derrida, individuals produce—and engage in—social practices and public institutions in which they collectively and deliberatively advance their own aspirations, values, and reasons. To the degree that educational theory and philosophy subscribes to a notion of education that in the Aristotelian sense refers to a social practice of reasoning together, an understanding of communitarianism that emphasizes the constitution of the self and its situatedness in social relations is called for. In this entry, congruent with the views of the aforementioned communitarians, three conceptions of communitarianism—conservative, radical, and pluralist—are first explained, in conjunction with the notion of education as a practice. Concurrently, education is examined as a practice embodying communitarian ideals such as public deliberation, responsibility, and disruption.

Conservative Communitarianism

First, conservative communitarianism accentuates communal inclusiveness and solidarity among people on the grounds that the social or cultural groups in which people grow and live share a common language, history, culture, identity, and ethnicity. Considering that such a form of communitarianism is associated with a patriotic loyalty to the group, educative relations have the potential to foster uncritical or unchallenged allegiance to the views of the group or community. Often, such relations are characterized by a relative lack of reflective thinking, and at times blind imitation, resulting in overzealous and dogmatic political and social action.

Radical Communitarianism

Second, radical communitarianism advances the view that communal relations are engendered on the basis of both equality and autonomy. On the one hand, each member of the community enjoys equal status on the grounds that all persons have an equal right to speak and to be listened to, irrespective of the fact that one member of the community may be considered to be more capable than another. On the other hand, in an autonomous, self-determined way, community members aspire to achieve—collectively—their political, social, and economic aspirations, without necessarily undermining the autonomous choices of individuals.

Pluralist Communitarianism

Third, pluralist communitarianism—the focus of this entry—has in mind the cultivation of public deliberation in what has been called an atmosphere of disruption. Whereas conservative and radical communitarianism both place a high premium on patriotism to the group as well as on equality and autonomy, pluralist communitarianism emphasizes public deliberation in disruptive ways that create opportunities to invoke the potentialities of individual members of the community. It is held that when people engage in public deliberation, they listen attentively to what others have to say and then respond so that all views are reasonably considered by one and all without repudiating the rights of anyone to be heard. Individuals can alter the conversation through modifying or adjusting views on the basis of more defensible justifications. In a way, pluralist communitarianism fosters a distinct conception of education that has democratic ideals and can be cultivated through at least three interrelated practices: (1) public deliberation, (2) responsibility toward the other,

and (3) (as will later be explained) disruption of the democratic order.

The Role of Public Deliberation

The first group of pluralist communitarians, namely, Habermas, Benhabib, and Gutmann, has in mind the use of public deliberation to guide educational practices. Public deliberation is aimed at empowering individuals to determine their rules of collective engagement and their cooperative living together through rational decision making based on a reflexive consensus. Through public deliberation, people offer reasons to justify their points of view, while being ready to listen to what others have to say in the quest to achieve agreement based on argumentation, persuasion, and the exercise of unconstrained freedom of articulation—except, as aptly stated by Gutmann (2003), when an injustice to others is being perpetrated (p. 47). Thus, when people embark on public deliberation, they endeavor to establish educational practices based on the construction of more reasonable views that others might find more palatable and through which people can together make modifications and adjustments to arguments that prevail. Hence, public deliberation considers argumentation, persuasion, and consensus making as reasonable endeavors to pursue in search of justifications that enjoy the support of an association of individuals as they embark on educational practices.

More specifically, on the one hand, Habermas's (1996) notion of public deliberation involves intersubjective communicative processes aimed at securing compromises, consensus, or fair bargaining based on a preponderance of "the better arguments" (p. 24). However, such a view of public deliberation presupposes that everyone is eloquent and capable enough of producing these better arguments. But of course, this is not necessarily the case. One may find that some people hold more persuasive views than others (who might not be able to articulate their cases eloquently and convincingly). On the other hand, Benhabib's (1996) notion of public deliberation is underscored by a condition of reflexivity whereby the outcome of deliberation is not fixed but can be revised and subjected to reexamination—that is, debated, questioned, and criticized (p. 72). In this way, even the consensus attained should not be considered as the conclusive outcome of deliberation, but rather, it should be seen as a temporary consensus until more reasonable judgments have been attained. Such a reflexive account of public deliberation would not silence or curtail dissenting minority viewpoints that a strictly consensus-oriented approach to public deliberation might dismiss. By implication, even "the best arguments" should be subjected to revision and reexamination, perhaps at a later stage; therefore, the outcome of deliberation is considered as an interim consensus until more reasonable opinions and preferences could confirm or overturn previously held views.

Relationships Based on Shared Humanity

The second group of pluralist communitarians, namely, Young, Nussbaum, and Cavell, offer an account of communitarianism that connects people on the basis of their humanity. One belongs to a particular group, and by virtue of being human, one bears an internal (organic or holistic) relation to all other human beings—especially those who might not belong to the same group as oneself. This internal relation with one's fellow human beings does not allow an individual to shed responsibility for what happens to others, even though they belong to a different social group.

Whereas Young establishes an internal relation among people on the basis of narratives about themselves that they exchange, Nussbaum considers such an internal relation to be based on the recognition of each other's vulnerability—that is, the putting of oneself in the shoes of others and actually doing something about changing their condition of vulnerability. As a member of a particular cultural group in society, one cannot just impose one's views (albeit religious or political) on others, for that in itself would deny that there are people in different positions (with different cultural orientations) than oneself. Doing so would be doing an injustice to others. Being responsible for what happens to them means that their views are acknowledged, even though one might not be in agreement with them. In short, one conceives the other from the other's point of view.

Pedagogically speaking, in demonstrating one's responsibility toward others in the manner described by Cavell, one immediately acknowledges one's capacity for intimacy with others—thus, limiting one's own idiosyncratic privacy. Thus, our private actions may lead to a betterment of our communal actions. One might privately contemplate doing something about improving human relations among people, but doing so autonomously without also penetrating the thoughts of other community

members may not necessarily contribute to achieving this goal. If one's privacy remains restricted to oneself, with the intention not to exercise responsibility to others, then one's practices would remain unshared and separated from the people with whom one happens to live. On the other hand, one's privacy opens a door through which someone else can tap into one's thoughts—which might be of benefit to society; but if this privacy is prompted by narcissism, the possibility that others might gain something valuable for the good of society could be circumvented. If one were to think about social practices in a balanced way, one should acknowledge the private efforts of individuals yet simultaneously recognize the possibility that their private actions can be of good public use.

Valuing Acts of Disruption

The third of a group of pluralist communitarians, represented by philosophers as diverse as Callan and Derrida, make a cogent case for acts of disruption in educational discourses. On the one hand, Callan's case for public deliberation characterizes the distress and belligerence of confrontation (i.e., a process of struggle) as moral truth is pieced together from the fragmentary insights of conflicting viewpoints. Whereas Habermas, Benhabib, and Gutmann view public deliberation as a mutually responsive act of engagement without belligerent contestation, Callan (1997) invokes ethical confrontation as constitutive of deliberation. For him, public deliberation is not an attempt "to achieve dialogical victory over our adversaries but rather the attempt to find and enact terms of political coexistence that we and they can reasonably endorse as morally acceptable" (p. 215). Through public deliberation, participants raise doubts about the correctness of the moral beliefs of each other, or about the importance of the differences between what they and others believe (a matter of arousing distress), accompanied by a rough process of struggle and ethical confrontation—that is, belligerence (p. 211). If this is what happens, belligerence and distress give way eventually to moments of ethical conciliation, when the truth and error in rival positions have been made clear and a fitting synthesis of factional viewpoints is achieved. This is an idea of public deliberation, where no one has the right to silence dissent and where participants can speak their minds. Thus, Callan's view of public deliberation is one of taking risks and being offensive, of causing disruption. (In light of this, it can be seen that some educators listening compassionately to students' narratives are culpable in that they steer the conversation so that the focus is on who the students are and not on the substance of what they have to say.)

On the other hand, Derrida's (2004) take on pluralist communitarianism can be explained by reference to his understanding of a "community of thinking" in the context of the university. Such a community would go beyond the "profound and the radical," and its enactment is "always risky; it always risks the worst" (p. 153). A "community of thinking" that goes "beyond" with the intention of taking more risks would become more attentive to unimagined possibilities, unexpected encounters, and perhaps to "the lucky find." Risky efforts on the part of academics and students would enhance the possibility of highly contemplative and theoretical contributions that go beyond practical usefulness and provide us with more to know than any other instrumentalist form of action (p. 130). Here, one is reminded of the need for risky intellectual contributions in educational practices, which might address the sporadic outbursts of violence and perpetual conflict in modern society. In a way, a "community of thinking" demands that reasons are rendered, encourages risk taking, and contributes toward renewal. In quite a disruptive fashion, a "community of thinking" allows us to take more risks, to deal openly with the radical incommensurability of the language games that constitute our society, and invites new possibilities to emerge—that is, a "community of thinking" cultivates a kind of thinking innately concerned with creating possibilities for dissent—a diversity of interpretations—complicating the taken for granted and opening up to the other.

Implications for Education

Finally, pluralist communitarianism offers a more positive way to think about education than do the conservative and radical views. Education as a democratic encounter requires both educators and students to act authoritatively whereby they both disrupt the pedagogical practices. That is, an educator acts authoritatively when she creates learning opportunities for students in terms of which they can play a role in interrupting the chain of reasons and consequences—causes and effects—that shape their learning. And learners are authoritative when they are enabled to create new forms of learning and to discover modes of action to make things happen.

By engaging in critique, the students have an equal ability to speak, understand, and redefine the practice of education in pursuit of making it a robust pedagogical encounter—that is, an encounter that has pluralist communitarian expectations.

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See also Citizenship and Civic Education; Democratic Theory of Education; Liberalism; Neoliberalism; Patriotism

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Communities of Learners

The phrase *community of learners* is associated with a theoretical perspective on learning that, according to Barbara Rogoff (1994), "takes as a central premise the idea that learning and development occur as people participate in the sociocultural activities of their community" (p. 209), and with a broader pedagogical reform effort designed to transform K–8 classrooms into sites of deep thinking and authentic collaborative inquiry. Proponents of this reform agenda (see Bielaczyc, Kapur, & Collins, 2013) argued that traditional academic approaches—narrow tasks that emphasize memorization or the application of simple algorithms—will not develop students who are critical thinkers or students who can reason, write, and speak effectively. Instead, to develop these higher-order skills, students need to take part in complex, meaningful projects that require sustained engagement, the development of subject matter expertise, collaboration, research, management of resources, and the completion of an ambitious performance or product. This entry discusses the influential Fostering Communities of Learners (FCL) project designed by Ann Brown and Joe Campione (1994), which is widely regarded as a model program for fostering such skills in students. An outline of the program and its theoretical grounding in "first principles of learning" is followed by a description of its implementation in the classroom through a variety of student activities. The entry concludes with a brief critique of the program's general applicability for curriculum design.

FCL Content and Teaching Strategy

The content in FCL introduced K–8th grade learners to key ideas in the life sciences: biodiversity, adaptation, evolution, species survival, and interdependence. The social life of the classroom-learning community was organized to foreground scientific dilemmas and uncertainties and to hand over intellectual authority for making sense of these to students through research, debate, reading, and writing.

Although it was the application of FCL that was recognized for its significance, Brown (1997) saw the project as having a dual focus on learning theory and practice. For her, the classroom was a living lab and only one site for her research program, which was organized to develop a theoretical model of learning and instruction, rooted in empirical data. Some of her influential earlier work was focused on the topic of metacognition—that is, the capacity to think about one's own thinking and to intentionally apply strategies to improve learning. Her basic studies of reading comprehension with her student Anne Marie Palincsar eventually became the basis for a core instructional strategy in FCL: reciprocal teaching, discussed further below (Palincsar & Brown, 1984). The development of metacognitive capacity and repertoires of learning strategies were basic to the FCL model. They ultimately sought to develop "intelligent novices" who were lifelong learners prepared to develop expertise on an issue as needed.

Theoretical Grounding in Learning Principles

FCL is based on a set of "first principles of learning." Reflective of the interdisciplinary field of the learning sciences, these principles were grounded in contemporary social, cognitive, and developmental psychological research, as well as perspectives from sociology, linguistics, sociocultural theory, and the philosophical and pedagogical ideals behind early renditions of project-based learning. Brown (1997) articulated six learning principles:

1. The importance of agency or learners, efforts to attain understanding through dialogue
2. The benefit of collaborative learning arrangements that distribute expertise and foster interdependence
3. The importance of reflection encouraged by an intentionally metacognitive environment
4. A culture of learning that values negotiating ideas and contributing to the classroom community and beyond
5. Designs crafted around developmental corridors of understanding that are supported by a spiraled curriculum that revisits topics over years to advance learners' competencies for reasoning about complex topics in particular domains
6. Lev Vygotsky's (1978) concept of the zone of proximal development (ZPD), or the difference between what a child could accomplish alone versus with the help of others, was another core idea that helped organize FCL classrooms. FCL classrooms were conceptualized as being constituted by multiple overlapping zones of proximal development that included not only adults with more expertise but also peers, books, videos, visual representations, and computing tools. Learning within a zone of proximal development is characterized as a process of appropriation in which learners come to take on independently those activities and strategies that were initially supported by social and material resources.

The articulation of first principles was intended to help avoid a phenomenon captured in the phrase *lethal mutations*, in which teachers apply instructional routines in a procedural way, distorting the original goals that these were designed to promote. At the same time, the research and design team were aware of the importance of systematically studying and redesigning teaching routines that mapped onto these principles and could be generalized to other content. Thus, the FCL instantiations of "first principles" were continually revised based on findings from the lab and from classroom design experiments (Brown, 1992), a methodological approach pioneered by the FCL team and their colleagues for advancing both theory and practice. Significant gains in reading comprehensions, generation of analogies, and content knowledge were documented (Brown, 1997), and collective knowledge-building practices evolved through observational and comparative studies. The program of research on FCL continued after the unexpected death of Brown in 1999. One set of studies culminated in a situated account of transfer (Engle & Conant, 2002). This work focused on classroom interactions and explored the hypothesis that transfer would be related to whether teachers framed learning as temporally linked to past and future contexts and whether they framed students' contributions as relevant to a broader community of people interested in the same topics. This interactional approach to studying FCL relied on video records collected in classrooms years before and demonstrates the potential of design experiments to continue to yield theoretical insights about the nature of learning over time. Other work in the FCL tradition focused on teacher learning.

Engineering a Community of Learners in the Classroom

The FCL first principles were brought to life in the classroom through an interconnected system of student activities that followed a tripartite cycle of research or inquiry, teaching others what was learned through research and culminating with the completion of a consequential task to represent the synthesis of group work. In a typical FCL unit, student groups would choose an animal species to focus on, and then individual group members would each take on one of the core disciplinary ideas to develop expertise around it in a process called *majoring* in the FCL terminology. For example, in a unit on endangered species, group members focused on mechanisms related to survival, including protection from predators, acquisition of food, and reproduction (Engle, 2006). Within the broader research–teach–synthesize cycle, participation structures for collaborative groups and lesson formats/

routines were designed to support the deeper goals of engaging learners in dialogue and complex reasoning. *Benchmark lessons*, for example, were whole-class activities where the teacher shared new content. *Cross-talk* sessions involved whole-class dialogues in which debates and differing perspectives could be articulated. *Research rotations* were organized for small groups to engage in collaborative sessions to co-comprehend texts or use the computer to do research. *Jigsaw* activities required learners to share their particular content expertise with group members, and then groups would recombine to share species-specific knowledge with other groups. The culminating projects were designed to motivate yet a deeper level of understanding. Students were expected to present their work to an audience—to groups of visitors, parents, and other students. These presentations were in the service of the metacognitive goals central to FCL, as described by Brown (1994): "Audiences demand coherence, push for high levels of understanding, require satisfactory explanations, request clarification of obscure points. . . . There are deadlines, discipline, and most important, reflection on performance" (p. 8). Presentations of work also signal to students that their work is important enough to be a source of public learning and celebration and provide opportunities for others in the learning community to see, appreciate, and learn from student work.

Challenges and Controversies

Although considered a model of a theoretically grounded curriculum, the FCL project also has its critics. One concern centers on the text-based nature of the inquiry work. Given Brown's prior focus on metacognition in the context of reading comprehension, this emphasis is not surprising. However, many science educators favor experiential approaches that have learners design and carry out investigations in the natural world. A second concern is that FCL is not easy for teachers to implement or adapt for their own content. The curriculum design requires domains that can be subdivided into subtopics that have interdependent relations and are "jigsaw-able." A third challenge stems from concerns about whether first principles are a useful way to describe and disseminate novel pedagogies. This critique arose in part from an ambitious project, funded by the Mellon Foundation, that brought FCL together with two other leading reform efforts in a project called Schools for Thought (see Lamon et al., 1996). The goal of this effort was to create a synergistic model that could transform an entire curriculum. This unique collaboration raised a number of questions as researchers in each site tried to implement their colleagues' ideas. They found that the first principles were subject to multiple interpretations. Despite these critiques, the FCL has been the basis of numerous curriculum efforts spanning mathematics, science, and language arts and remains a preeminent example of a theoretically and empirically grounded instructional approach.

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See also Design Experiments; Dewey, John; Learning, Theories of; Transfer of Learning; Vygotsky, Lev

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Competence

Although the term had been used in the fields of sociology, literary criticism, and linguistics, it was not until the 1980s that *competence* entered the educational lexicon, chiefly as a result of its employment in the competence-based education and training (CBET) system, which underpinned the reform of vocational qualifications in the United Kingdom led by the National Council for Vocational Qualifications (NCVQ). In terms of its standard denotation, competence is normally connected with the satisfaction of certain criteria of action, thought, or behavior: the performance of an act or process according to generally accepted standards or evaluation principles. It is in this sense that we might speak of a competent plumber who is able to install relatively problem-free sinks or central heating systems, a competent chess player or athlete who succeeds in a good many of the games played or events entered, or a competent scientist who has a reasonably good record in terms of papers published or funding applications granted.

Although competence can theoretically refer to a person's potential capacity, its primary characteristics connect it squarely with the outcomes of action and behavior, with what a person has actually done or demonstrated when judged by certain standards. An accompanying feature is the implication that achieving competence in any particular domain may not be the highest form of accomplishment possible. This observation brings in some of the more negative connotations of the concept. In addition to the fact that, as Terry Hyland's critiques over the past few decades have argued, there are a good many categorically different definitions of competence in the literature—as well as a systematic confusion between *competence* (as a capacity, applying to persons) and *competency* (as a disposition, applied to specific abilities, skills, or activities)—there is a strange ambiguity about the term. Although competence is generally a term of approbation, it also carries with it minimalist characteristics. Dictionary definitions that include synonyms such as *adequate*, *sufficient*, and *suitable* tend to confirm the idea that describing a person as being a competent doctor, electrician, teacher, or golfer is, perhaps, not the highest form of praise for or evaluation of that person's abilities or achievements.

The minimalist connotations are exhibited in a number of ways. The overwhelmingly predominant employment of "competence-speak" is in the area of vocational education and training (VET), especially the utilization of CBET in the introduction of national vocational qualifications (NVQs) by the NCVQ. Gilbert Jessup, the erstwhile director of research for the NCVQ, was only too aware of the "basic minimum" overtones of the central concept of competence and attempted to counter this by asserting that competence did not refer to a basic minimum level of performance but to the standard required to perform an occupational function. But such special pleading did little to answer the suggestion that perhaps such a standard was not the highest one possible. For example, in a number of widely used models of professional/occupational development, competence is only approximately a halfway stage on the journey people make from the status of novice to that of expert. Thus, competence does not seem to be the most appropriate foundation on which to build a whole system of education and training and, at this level, is arguably as fatuous and nebulous as its ubiquitous sister term, *skill*.

Competence and Vocational Education

The chief reason that competence is of any interest to educators is, without doubt, its widespread employment in the field of VET, especially in the development of NVQs in the United Kingdom. Following the U.K. experience in the 1980s, CBET systems were introduced in countries around the world in the hope of finding quick-fix solutions to the difficult challenges of neoliberal economics and post-Fordist industrial restructuring. The results have generally been disappointing. In the survey of the implementation of CBET systems in countries around the world edited by Antonio Arguelles and Andrew Gonczi, the editors concluded that CBET did not satisfy the requirements for innovative skill development in industrial and professional contexts and that its educational foundations were shaky. In the United Kingdom, the NCVQ was abolished in

1997, general NVQs were phased out in 2008, and, although NVQs still operate in specific spheres of workplace learning, they no longer have such a central place either in apprenticeship schemes or VET in general. A number of recent reports on vocational education in Britain have indicated that competence qualifications do not meet the demands of employers or students, and apprenticeships in particular have a more general educational foundation now.

Weaknesses of CBET

The demise of the competence model is due to a number of educational difficulties with CBET. In addition to the logical and linguistic problems noted above, there is epistemological confusion concerning the relationship between competence and knowledge, theory and practice, and knowing-how and knowing-that. Since there is an insistence that CBET measures only performance outcomes, knowledge thus comes to serve a purely instrumental purpose: It is only valuable if it gives rise to measurable performance outcomes. Such a devaluing of knowledge and understanding—conjoined with the marginalization of moral and affective objectives in competence systems—tends to downgrade VET, as a number of critical studies and national surveys have pointed out over the years. Moreover, the obsession with product and neglect of process is underpinned by a behaviorist thrust that is at odds with contemporary developments in education—and also in craft apprenticeships—which foreground autonomous and independent learning.

Conclusion

The logically imprecise, epistemologically confused, and behaviorist foundation of CBET serves to rule out its widespread adoption by educators and policymakers concerned with autonomous student learning and a liberal education as outlined by R. S. Peters, which is connected with the development of knowledge, understanding, and values. The education of the whole person—especially in that broad conception of vocational studies informed by John Dewey's philosophy—requires rather more than the satisfaction of performance criteria in the pursuit of competence outcomes.

Terry Hyland

See also Behaviorism; Dewey, John; Education, Concept of; Liberal Education: Overview; Peters, R. S.; Vocational Education

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Complexity Theory

A simple example of complex behavior is a group of birds in flight, flocking together in a beautiful unfolding pattern. Fascination with complex behavior is as old as civilization, but progress in understanding it theoretically has been slow. From the scientific revolution of the 17th century until recently, scientists assumed that natural systems could be simplified and approached by linear methods. Differential and integral calculus focus in on small segments of curves to reduce them to lines. The dominant analytical paradigm has prevailed because of the availability of methods of linear analysis, not because of any deeply argued conclusions about nature.

Complex systems, however, are nonlinear. Progress in understanding them was made in the 20th century owing to mathematical advances in nonlinear dynamics and to computers that were able to make complicated calculations and simulate complex processes. Studies of complexity and self-organizing systems converged in the field of complexity theory during the 1980s. As is common in new interdisciplinary fields, those approaching the territory from different starting points have imported different interests, problems, methods, and terminologies. It is now a truism that there is not even basic agreement about the definition either of "complexity" itself or of related central terms such as *self-organization* and *emergence*. Nonetheless, consensus definitions are emerging, and these terms have demonstrated enormous heuristic value in suggesting analogies and models in a number of areas of study, including education.

Key Ideas of Complexity Theory

In complexity theory, a *system* is defined as a set of interacting parts that behave as a whole and can

be distinguished from an *environment* by identifiable boundaries. The system's function depends on the nature and arrangement of its parts. Because some parts interact, they are often referred to in complexity studies as *agents*. Systems may include one or many diverse types of agents: for example, army officers and enlisted men, classroom teachers and students, and business managers and workers. Agents of any type can follow similar or different rules, so there can be variation not merely among the agents but also among the rules or strategies. Systems also include nonagents, such as artifacts, which are used and acted on by agents.

The pattern of interactions among parts of the system determines the system's structure. A system is said to be complex to the extent that there are strong interactions among the parts, interactions that significantly influence the probabilities of many kinds of future events, including the subsequent actions and strategies of agents. Interactions in a system are more likely to be strong when there are many and diverse agents following diverse local rules or exhibiting diverse local strategies. The more complex the system, the stronger and more multiple the interactions, and the more difficult it is to interpret, predict, or control its behavior.

A *complex adaptive system* is one where the agents in the system seek to adapt to changing conditions in the system or the environment. Adaptation involves making selections (of agents, agent types, rules and strategies, or artifacts) in the system to improve the performance of the system's, or of an individual agent's, performance on some measure of success. An organization exists in a competitive environment, and the adaptive success of any selection (e.g., of personnel or strategies) depends not just on these selections but also on the success of selections of competitors in the environment. The environment is referred to as a *fitness landscape*, in which the fitness (capacity for organizational success and durability over time) of an organization rises and falls as a result of both the organization's adaptive selections and those of its competitors.

Complex human systems such as organizations are inherently adaptive. Humans draw on their rational, calculative side to state explicit goals and to devise through trial-and-error or experiment-effective strategies as means for achieving them. Complexity theory views system goals as tools to focus agent efforts: Goal achievement is not the same as fitness, as goals can be poorly chosen, and their achievement can accompany suboptimal system performance or even system failure in the system's changing environment.

Self-Organization and Emergence

Some systems, and especially those of interest to the field of complexity studies, take shape or form a structure "by themselves"—that is, through the interactions of agents following local rules rather than through top-down control. The flocking of birds, much studied and modeled by complexity theorists, is a paradigm of such systems, which are said to display *self-organization*.

Complexity theory seeks general principles about the growth and evolution of structure in systems to understand how changes in control parameters of the system—such as the number and diversity of interacting agents and strategies, the rate of flow of information in the system, and the strength of interactions—affect system components and their interactions. Changes in such control parameters affect the stability of organizations and their parts and can prompt phase transitions to different structures when the system operates at the edge of chaos or disorder. According to complexity theory, it is possible to control phase transitions in complex adaptive systems by manipulating control parameters even though the structure of the posttransition system cannot itself be predicted or controlled.

Complex systems are marked by *nonlinear causality*; that is, the causal relationships in the systems cannot be interpreted as linear or continuous functions. In systems tending to equilibrium, such as physiological systems in equilibrium, small positive feedback loops are balanced by negative feedback loops, so that linear mappings remain good approximations of cause-and-effect relations. Complex systems, however, operate far from equilibrium conditions; they are marked by unchecked positive feedback loops, so small changes in causal factors can have large and unpredictable effects.

When a system is destabilized by such a positive feedback process, it can fall into gross disorder, but significantly, it can also enter a phase transition to a new order at what is called the *edge of chaos*. (The term *chaos* in complexity theory retains its ordinary sense of disorder or disarray; it is not to be confused with the term as used in *chaos theory* to refer to an unusual type of order.) New structures, exhibiting new properties not previously witnessed in the system, may then emerge owing to processes of self-organization.

Three properties are characteristic of emergence. First, the new structure is entirely dependent on the interactions of the underlying parts—this property is often referred to as *supervenience*. Second, the emergent properties are not predictable on the basis of the properties of the parts—this is referred to as *holism* and is often expressed by saying that "the whole is greater than the sum of its parts." Third, once the new whole takes shape, it has significant effects on the behaviors of the parts—this is known as *downward causation*.

The central idea about organizational change in complexity theory is that organizational adaptations result from self-organized emergence rather than from central control. Functional stability and order are continuously maintained not through planning, top-down strategy, and tight control of operations but through successions of creative interactions at the edge of chaos that may be provoked or coordinated by leaders, but whose outcomes cannot be controlled. Leaders of organizations as complex adaptive systems cannot achieve top-down control because the causal links between the means at their disposal and the ends they seek simply cannot be mapped. To provoke change, organizational leaders can at best provoke phase transitions, so that a new, though unpredictable, adaptive order can emerge through self-organization.

The Classroom as a Complex System

A school classroom can be conceived as a complex system comprising teachers, learners, and artifacts such as pencils, worksheets, desks, and blackboards. In a typical classroom, information flow is determined in a top-down fashion in a curriculum established by reference to local, state, or national standards. Teachers convey preselected subject matters to learners and monitor learning with recitations and objective tests. In this way, a certain kind of order is maintained.

Complexity theorists view this kind of top-down structure as maintaining a suboptimal order by reducing complexity—suppressing differences among both teachers and learners as agent types possessing diverse strategies. The containment of these differences, while maintaining a rigid order, can also result in a breakdown of order as students act out in rebellion—hence the emphasis on classroom management strategies in teacher preparation.

Complexity theory suggests an alternative approach for fostering classroom order—releasing the complexity inherent in diversity by reducing top-down control, liberating learner action within given limits, and harnessing educational value from local interactions that ensue.

In *The School and Society*, John Dewey anticipated such an approach to classroom organization in all of its key elements, via a shift from fixed lessons to activities grounded in social occupations such as crafts, gardening, and cooking. The complexity in the classroom situation is released, because students reappear as distinct agents with varied aims and action strategies: "The moment children act they individualize themselves; they cease to be a mass, and become the intensely distinctive beings." He notes,

> As one enters a busy kitchen in which a group of children are actively engaged in the preparation of food, the psychological difference, the change from more or less—passive and inert recipiency and restraint to one of buoyant—outgoing energy, is so obvious as fairly to strike one in the face. (Dewey, 1976, p. 11)

He adds that

> to those whose image of the school is rigidly set the change is sure to give a shock. . . . There is a certain disorder in any busy workshop; there is not silence; persons are not engaged in maintaining certain fixed physical postures . . . they are doing a variety of things, and there is the confusion, the bustle, that results from activity. (Dewey, 1976, p. 12)

But as the learners interact in accord with local rules, in a situation defined by inherent aims and limits (cooking a meal with the ingredients on hand), a discipline "of its own kind and type" develops, preventing the bustle and confusion from flying off into chaos. Instead, "In an informal but all the more pervasive way, *the school life organizes itself* [italics added] on a social basis" (Dewey, 1976, p. 12).

Complexity theory points to further analyses of and research on classrooms, schools, school districts, and other educational organizations as complex adaptive systems. It predicts that organizations will be capable of more optimal function through the release of inherent complexity—greater diversity of agent types and strategies, freer flow of information—and the subsequent harvesting of heretofore obstructed educational values.

Leonard Waks

See also Dewey, John; Social Systems Theory: Talcott Parsons and Niklas Luhmann

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Conceptual Change

Research on conceptual change has emerged in recent years as an important area in developmental and educational psychology. Conceptual change research investigates knowledge acquisition processes both in child development and with older learners, particularly in situations where the new information to be learned is very different from learners' prior beliefs and requires the radical revision of prior knowledge and/or the creation of new concepts.

The problem of conceptual change became first apparent to philosophers and historians of science in their attempts to explain how scientific theories change. According to T. S. Kuhn (1970), normal science operates within sets of shared beliefs, assumptions, commitments, and practices that constitute "paradigms." Discoveries emerge over time that cannot be accommodated within the existing paradigm. When these anomalies accumulate, science enters a period of crisis, which is eventually resolved by a revolutionary change in paradigm. Many scientific revolutions, such as those fueled by the Newtonian theory in physics, the Copernican theory in astronomy, and the Darwinian theory in biology, can be seen as the products of radical conceptual change. As Paul Thagard (1992) notes, in these cases, new theories are generated to explain known and new phenomena, and new concepts are formed.

Ideas about conceptual change from the history and philosophy of science were brought to developmental psychology through the work of Susan Carey (1985) and to science education through the work of George Posner, Kenneth Strike, Peter Hewson, and William Gertzog (1982). By the late 1970s, it had become apparent that students bring to their learning of science alternative frameworks, preconceptions, or misconceptions—some of which are rather robust and difficult to extinguish through teaching. In some cases, these alternative frameworks appeared to be similar to earlier theories in the history of science, for example, the impetus theory in mechanics (McCloskey, 1983). George Posner et al. (1982) drew an analogy between the concepts of normal science and scientific revolution offered by philosophers of science such as Kuhn (1970), and Jean Piaget's (1970) concepts of assimilation and accommodation, and derived from this analogy an instructional theory to promote "accommodation" in students' learning of science. According to Posner and his coworkers, students need to undergo a radical conceptual change when it comes to learning scientific concepts like *force*, *heat*, and *energy*.

Over the years, a significant body of research emerged that investigated the processes of conceptual change, the learning mechanisms involved in the generation of new concepts, and the instructional strategies that can promote it. The theoretical and methodological discussions that have taken place in this process have been some of the most interesting in the field of learning and instruction, raising important questions about the nature of knowledge, its organization, and its revision. Although the beginnings of conceptual change research can be traced to scientific discovery in physics and physics education, this research is by no means restricted to physics but makes a larger claim about learning that transcends many domains of knowledge and can apply, for example, to biology, psychology, history, political science, medicine, environmental learning, and mathematics.

Some researchers are not persuaded that there is a need to distinguish "conceptual change" processes from learning in general. However, while conceptual change is undeniably a form of learning, it is important to differentiate it from other types of learning because it requires fundamental changes in the content and organization of existing knowledge. It also requires the development of new learning mechanisms, mechanisms appropriate for deliberate knowledge restructuring and for the generation of new concepts. Most learning is implicit and additive involving mainly the enrichment of prior knowledge. Conceptual change cannot be achieved through the use of implicit, enrichment-types of learning mechanisms alone. In fact, the use of enrichment-types of learning mechanisms in situations that require conceptual change can often lead to the creation of misconceptions or "synthetic" conceptions. Synthetic conceptions are hybrid constructions that combine scientific information with intuitive beliefs and presuppositions based on everyday experience. In an example described by Stella Vosniadou and William Brewer (1992), young children often interpret scientific information regarding the spherical shape of the earth to mean that the earth is circular but flat like a pancake, or that the earth is spherical, but people live on flat ground inside it. These types of misconceptions are synthetic constructions suggesting that students are implicitly assimilating the new information regarding the spherical shape of the earth into their intuitive model of a flat earth. Similarly, erroneous strategies used by students in mathematics, such as the common mistake that 1/3 + 1/3 = 2/6 instead of 2/3, reveal the implicit interference of natural number operations in fraction addition (see Vamvakoussi & Vosniadou, 2010, for many more examples).

There are various theories that attempt to explain students' difficulties in situations where conceptual change is required. One approach, described by Andrea diSessa (1993), is known as "knowledge in pieces." According to this approach, the knowledge system of novices consists of an unstructured collection of many subconceptual elements, which become organized into a larger system of complex knowledge structures. This approach emphasizes the importance of knowledge integration in conceptual change processes.

Another approach, known as the "framework theory" approach, claims that children construct a naive theory of physics that is based on everyday observations in the context of lay culture, well before they are exposed to systematic science instruction. When exposed to scientific explanations, students use the usual, constructivist, and enrichment-types of knowledge acquisition mechanisms to incorporate the new, incompatible, information to their background knowledge. Because of the incompatibility between existing knowledge structures and the new, to-be-acquired, information, however, such learning processes may lead either to internal inconsistency and, thus, to fragmentation, or to the formation of synthetic conceptions. According to this approach, conceptual change is difficult because it requires the creation of new ontological categories, new representations, and the development of a constructivist epistemology. Other researchers, such as Michelene T. H. Chi (2008), also argue that conceptual change is difficult because it requires shifts in the ontological category to which a concept is assigned. Finally, sociocultural approaches focus on the influence of context and consider the engagement in contextually appropriate discourse as a necessary component of a learning environment that fosters conceptual change (Hatano & Inagaki, 2003).

In addition to cognitive and situational factors, conceptual change also seems to be affected by various motivational factors, such as goals, self-efficacy, interest, and academic emotions. Although research is still scarce, some findings indicate that students who adopt a mastery goal orientation engage in more elaborative cognitive and metacognitive self-regulatory strategies than students who do not adopt a mastery goal orientation are thus more likely to achieve conceptual change. Confidence in one's ability to perform well in a particular task or domain may also influence performance through a more effective processing of the material to be learned. However, high self-efficacy may also have detrimental effects on conceptual change. High confidence in erroneous beliefs often generates resistance to revision and commitment to current conceptions.

Despite their theoretical differences, most researchers agree that conceptual change is a gradual and time-consuming affair that is difficult to achieve. Instruction for conceptual change requires substantial changes in curricula and extensive sociocultural support. Dialogical interaction, argumentation, collaboration, classroom discussion, and meaningful practices around carefully designed curricula based on students' learning progressions are the means of developing prolonged motivation for change, metaconceptual awareness, epistemological sophisticating, and deep comprehension

activity, all of which are important facilitators of conceptual change (Hatano & Inagaki, 2003; Vosniadou, Ioannides, Dimitrakopoulou, & Papademitriou, 2001).

Instruction for conceptual change is often associated with the use of cognitive conflict. Cognitive conflict can be produced by asking students to make predictions or give explanations of phenomena and then present them with contradictory experimental evidence or some other kind of anomalous data. As John Clement (2008) has noted, despite various criticisms of the use of cognitive conflict, research shows that a combination of dissonance with knowledge building strategies can be fruitful in promoting conceptual change. In recent years, cognitive conflict has been used in a particular type of text structure known as refutational text. A refutational text states readers' alternative conceptions about a topic explicitly and then directly refutes them, introducing the scientific concept as a viable alternative. The superiority of refutational text compared with traditional expository text has been documented in many studies.

Other instructional strategies that have been found to promote conceptual change involve the use of instructional analogies and model-based reasoning. Instructional analogies are explicit analogies in which an unfamiliar concept or explanation is introduced by appealing to its relational similarity to a familiar concept from a different domain. Several models of how to teach with analogies have been developed, all of which emphasize, among others, the need to (a) use well-planned analogies from a base domain highly familiar to students, (b) make the mapping between the base analog and the target concept clear and explicit, and (c) indicate where the analogy breaks down to avoid the creation of misconceptions.

Finally, some researchers focus on models and qualitative model construction and revision as an important mechanism for conceptual change. By constructing explanatory models, students translate the verbal and abstract theories and explanations of science into concrete representations that can be explored and examined. A number of innovative curricula have been developed that start with children's views and slowly build new representations and understanding through model-building activities. These approaches have been consistently more effective in bringing about conceptual change compared with standard physical activities in science.

Although a large body of empirical evidence pointing to the problem of conceptual change has been accumulated, the relevant findings and results have not yet found their way into everyday classroom practices. Most teachers are unfamiliar with the kind of students' pre-instructional conceptions that have to be taken into account when new concepts are introduced. Indeed, teachers' views of teaching and learning are so limited when seen from a conceptual change perspective that some researchers have argued that teachers themselves need to undergo a process of "pedagogical conceptual change" (Duit, Treagust, & Widodo, 2008).

In conclusion, instruction-based conceptual change research investigates learning processes that require the substantial revision of prior knowledge under conditions of systematic instruction. Conceptual change research has shown that many concepts are difficult to understand because they violate people's intuitive beliefs constructed on the basis of observational experience in the context of lay culture. Conceptual change is difficult to achieve and requires many years of concentrated instruction and the design of innovative, research-based curricula that take into consideration the students' point of view, meaningful practices, and extensive sociocultural support.

Stella Vosniadou

See also Kuhn, Thomas S.; Piaget, Jean

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Confucius

Confucius (551–479 BCE, China) was the first philosopher to offer systematic views on the values, purposes, and methods of education. While working as a consultant on classics, morality, rituals, and statecraft and holding offices to implement his ideals of good government, Confucius started his own school. It was one of the first in China. Confucian views on education have strongly influenced the educational systems and policies of China, Taiwan, Japan, and Korea for more than 2,000 years. The essence of his thought is that education is a learner-initiated quest for human excellence, which is of supreme value for individuals and society. The major source of his philosophy is the *Analects*, a collection of his teachings and conversations with his disciples. It was compiled after his death by his students. This entry discusses the purpose of Confucian education and its emphasis on virtue, his teaching method, and his conception of learning.

The Purpose of Confucian Education

For Confucius, living virtuously is the highest goal of life. Education is necessary for the realization of this supreme goal. Confucius believes that there is the Way (*tao*) for human beings, and following it is necessary to live the best life. The Way is realized when people possess and practice the virtue of humaneness (*ren*). For Confucius, humaneness is the most comprehensive virtue and includes filial piety, elderly respect, and sincere observance of rituals, righteousness, truthfulness, sincerity, and wisdom. The cultivation of these virtues necessarily requires education. This is because all people are the same at birth and are by nature neither good nor bad. Some become virtuous, however, due to proper training, and others become vicious, due to improper training. Training is practice in a form of behavior: either virtuous or vicious. In a nutshell, education, for Confucius, means education in the virtues, and practice is essential.

Education is not just to enable an individual to lead a flourishing life, however, but to enable the creation of a flourishing state. Rulers must follow the Way and cultivate the virtues. This is very important for Confucius, since he believes that rulers and officials can realize the Way in government and can create a good state, only through the practice of the virtues. The mere establishment of laws and policies is not enough. If rulers and officials live virtuous lives, citizens will imitate them and cultivate the virtues in their own lives. Confucius says, if the rulers practice rituals, reverence, righteousness, and truthfulness, the people will practice the same. In that case, people from other states will come to live under such rulers. The state will flourish with virtuous and able citizens. The flourishing of a state, then, depends on the education—the learning—of citizens, rulers, and officials of the government.

Virtue Education and Practical Knowledge

Confucian education is education in the virtues. In Confucius's view, education in technical and practical knowledge has low or minimal value. This is true even of the technical and practical knowledge of government officials. He claims that a person aspiring to be excellent shouldn't aim at fulfilling a specific role in society that requires only role-related knowledge. However, Confucius does not look down on common people or denigrate the importance of practical and technical knowledge in society. His strong emphasis on virtue education means

only that the worthiness of a person as a human being is determined solely by possession and practice of the virtues and that the cultivation of the virtues is prior to the practice of statecraft as such, even for government officials. Confucius's position is that after one has cultivated and practiced the virtues, one can and should pursue practical and technical knowledge.

Confucius's Teaching Method

Education, as the key to the flourishing individual and state, should be centered on studying and learning rather than on teaching and instructing. What is necessary for the cultivation of the virtues is practice of the virtues initiated by the learner. Without learning, Confucius claims, the quest for the cultivation of the virtues achieves only folly and vice. For example, the aspiration to be courageous results in rebelliousness without learning to be truly courageous. Also, the virtues cannot be cultivated externally, without the aspiration or desire for them. Confucian education is thus a learner-initiated effort to learn. For this reason, Confucius says very little about the efficacy of various teaching techniques, even though he himself was a dedicated teacher with his own unique methods. The role and function of teachers are limited, at least compared with what has become customary in the Western world today. A person is fit to be a teacher, Confucius says, if he is a transmitter of time-honored traditions and knowledge and a practitioner of acquired new wisdom through the study of the classics and the practice of virtue. Confucius takes no one else to be qualified as a teacher.

It is a mistake to take this to mean that Confucius is an educational reactionary and denies the efficacy of good teaching techniques. His methods show otherwise. They are designed to promote thought, in an effort to strengthen learning, reinforce the virtues, and solidify good social practice. He prefers the Socratic elenchus to long lectures and frequently asks his students questions, as well as answers questions posed to him by his students. The conversations that ensue are filled with concrete illustrations and analogies drawn from the classics, rather than with abstract and theoretical concepts. And Confucius's comments and questions are always geared to the level of intellectual and moral development of his interlocutors. He reasons together with his students to investigate an issue. Challenges from his students were also welcomed by him. He even describes one of his disciples as stupid because he didn't contradict Confucius. Critical thinking is more than encouraged—it is required—in Confucian learning. Confucius's teaching techniques are thus designed to acquaint students with received wisdom as well as to invite new insights. True Confucian education is therefore quite different from what has become known and practiced as "Confucian education." Knowledge as rote memorization of the classics, with uncritical acceptance of what the teacher hands down as wisdom, is a pleasant and simple picture of Confucian education, but it is nothing more than a gross caricature.

Confucius on Learning

Learning has the cultivation of the virtues as its goal, and Confucius believes that learning must begin with the aspiration of the learner. Learning then progresses with critical thinking, respectfully directed on accumulation of knowledge and on oneself. The study of culture and the classics is essential for learning. But learning is never divorced from life. Learning is fully realized in the practice of virtue in life. For Confucius, learning comprises aspiration for the cultivation of the virtues, the active accumulation of materials (especially the classics) for study, critical thinking on the accumulated materials and oneself, and the practice of what one has learned. All are inextricably linked.

This view of learning is exemplified in Confucius's own life. His lifelong aspiration to learn, he said, began at the age of 15, when he decided that the goal of his life was learning. Such a decision is necessary but not sufficient for learning, he realized. Immersion in the classics and critical reflection are also necessary. Much wisdom can be found in the classics, he discovered, but not as mere formulas or dry facts. Wisdom requires active reflection on the accumulated wisdom found there and elsewhere, and the accumulation of wisdom through critical thinking on accumulated wisdom is learning. However, wisdom attained through learning is not merely from studying many things and remembering them. He claims that learning without thinking is fruitless and that thinking without learning is perplexing. Learning in the sense of studying and memorizing the wisdom of others, without thinking, leads to misunderstanding, while thinking without any substantial acquisition of the wisdom of others leads to confusion. The sort of thinking that is required for true

learning is critical thinking, and it must take as its object knowledge attained from the study of the classics and the wisdom of others. In fact, thinking on such valuable accumulated materials to regain old wisdom for oneself and to attain new insights for new problems and questions is what critical thinking is.

In addition to critical thinking on accumulated materials, critical self-reflection is also an essential component of Confucian learning. Reflection on one's capacities, strengths, weaknesses, and limitations duly humbles a person and makes him open not only to the possibility of his own mistaken views but also to the teaching of others. The expected results of such critical self-reflection can again be seen in Confucius's own life: flexibility of thought, open-mindedness to ideas, humility in all matters, skepticism about the absolute certainty of one's knowledge, and candid admission of one's own limitations and weaknesses. Critical self-reflection is one of the pillars of Confucian thinking and helps strengthen critical thinking on accumulated materials.

Learning's ultimate aim is the practice of the virtues, not merely their possession. Virtues such as filial piety, respect for the elderly, sincere observance of rituals, truthfulness, righteousness, and wisdom are cultivated and completed through repeated and habitual practice. For Confucius, education is a life-transforming effort in the practice of the virtues by the learners themselves.

Hye-Kyung Kim

See also Aristotle; Critical Thinking; Learning, Theories of; Self-Regulated Learning; Socrates and Socratic Dialogue; Virtue Ethics

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Connoisseurship and Educational Criticism

Educational criticism is an aesthetically grounded approach to qualitative research. In this entry, *connoisseurship* refers to the act of knowing; criticism refers to representing that knowledge in public venues such as academic books and journals. Founded by Elliot W. Eisner at Stanford University, the educational connoisseurship and criticism model seeks to illuminate the meanings, qualities, and patterns that constitute school experience. While most educational research is informed by the social and behavioral sciences, educational criticism takes its lead from the work of critics in fields such as music, literature, drama, film, and the visual arts. For this reason, educational criticism offers an alternative frame of reference for considering epistemological issues in research. Such issues include the roles of objectivity and subjectivity as well as questions of research validity and generalizability.

This entry is divided into two parts. First, it examines the structure of educational criticism as made up of four overlapping dimensions: description, interpretation, evaluation, and thematic. Second, the entry addresses questions of warrant by focusing on three criteria for assessing criticism. These criteria include consensual validation, structural corroboration, and referential adequacy.

The Structure of Educational Criticism

The first dimension of educational criticism is *description*. This dimension focuses on providing accounts of what critics have seen or heard based on their own firsthand observations. The terms *see* and *hear* are used in this context as achievement verbs. They imply informed discernment and sensibilities. To use an analogy, wine critics do more than enjoy wine. If they are to perform their functions well, they must examine the color and clarity of wine with a trained eye. As connoisseurs, their palates must be able to discern a wine's complex balance and blend of flavors. Critics must attune their sense of smell to the dominant and minor aromas of a wine's bouquet. In addition to wine, one need only consider dance, music, poetry, painting, or sculpture to recognize that such products of human experience are resolutely grounded in sensory perceptions. Likewise, understanding the subtle qualities of a classroom lesson, the nuanced messages of a textbook, or the

dramas of preschool children at play depend on knowing what to look for.

The forms of discernment described above are often associated with fieldwork and data collection. Other sensibilities are involved with the task of providing a vivid representation of what the critic has learned. Description in educational criticism seeks to put others at the scene through expressive language. Such language may employ narrative structures, metaphors, connotative meanings, symbols, and onomatopoeia. Expressive description calls for what some call "an ear for language." In representing the feel of a classroom or the orchestration of a lesson, critics know that matters of tone, tempo, and style make a difference.

The second dimension of educational criticism is *interpretation*. The aim of interpretation is to explicate observations and further an understanding of how and why educational practices take place the way they do. In short, critics not only *sense* the qualities of educational experience, they also seek to *make sense* of them. The contents of observations are interpreted as part of a category, class, or pattern of meaning. Thus, interpretation involves the use of theories and concepts.

All researchers interpret their data using theories that they either bring to a study or develop as the study proceeds. Educational critics, however, do not use theory to predict an experience or its outcome. Rather, theories and concepts are used as maps or guides that help bring into focus certain patterns of meaning. Educational criticism is interpretive in another sense as well. Critics focus their inquiry on how research participants interpret their own experiences. For example, critics might focus on how teachers, students, or school administrators understand a new algebra program, or they might examine what it means to teach under different types of school leadership.

A third dimension of educational criticism is *evaluation*. Evaluation overlaps with both description and interpretation in that these dimensions are shaped by what critics judge to be worth attending to in the first place. On this point, misunderstandings may stem from the lay use of the term *criticism* to mean faultfinding. Educational critics are not so predisposed. If anything, the opposite is true. In the arts, criticism has a tradition of selecting exemplary work to critique. The critic's responsibility is to help others understand what constitutes goodness in domains, like education, that are themselves highly normative. Critics may point to problems, educational or otherwise; but even in these cases, negative evaluations are tempered with an effort to portray the complexities of school practice.

Critics are also quick to recognize that no single value or set of values is agreed on as the final arbitrator of good (or bad) education. Critics may ask how well a lesson promotes critical thinking, is relevant to the students' lives outside of school, fosters cultural literacy, increases equity, or prepare students for adult life. Critics also seek to contextualize their judgments relative to the particular intentions and situations at hand. Here, an analogy with sports may also be helpful. Fans will judge a game based on how well it is played and not simply on its final score.

The fourth dimension of educational criticism is *thematics*. Themes are similar to generalizations in research but significantly differ in their use. Sometimes referred to as transferability, themes represent the recurrent messages, concepts, principles, or patterns that are extracted from the study of particulars. The critic's aim is to recognize and name patterns that will help others better understand experiences they have previously encountered and puzzled over. In this respect, themes contribute to the anticipatory schema that allow interpreting experiences at a more sophisticated level than would otherwise be possible. Even single cases, if they are meaningful, reveal not only themselves but also the qualities and attributes they hold in common with other cases of the same type. Themes are based on this premise.

Issues of Warrant

How does one judge the trustworthiness or believability of an educational criticism? The answer to this question is partly a matter of how criticism is viewed. In particular, critics see research as an amalgam of qualities that are postulated to exist combined with the critic's own sensibilities, beliefs, and values. Because the critic's antecedent knowledge always colors and shapes his or her work, expecting ontological or procedural objectivity is inappropriate. Instead, readers of criticism look for well-supported arguments, reasonable claims, and plausible accounts. Three criteria are useful in making this determination. The first is *consensual validation*. When two or more critics observe in the same school, readers should be able to recognize that particular school or similar schools based on the descriptions provided. This is consensual validation. Educational critics

sometimes share their work with others who are not research participants but who have extensive knowledge in the areas being addressed. If these informed others concur with the criticisms at hand, this is also a form of consensual validation. Yet we look for agreement only in those areas where one would reasonably expect to find it. As noted above, different critics bring different sensibilities informed by different frames of reference to what they observe. Just as a criticism of Shakespeare's *Hamlet* reflects the critic's own reading of that play, an educational criticism reflects the critic's own readings of a classroom, lesson, or textbook.

A second way to assess the trustworthiness of educational criticism is *structural corroboration*. Structural corroboration concerns the weight of the evidence and its rightness of fit. Is the criticism well informed through multiple data sources or by other means? Does the critic provide enough context or "thick" description for readers to reach their own warranted conclusions?

Evidence in all forms of research can be used selectively. For this reason, another aspect of structural corroboration is whether the critic has sought out disconfirming or contradictory evidence. Have critics presented a fair and balanced account of their observations? And have their views changed as a result of their research?

The question of changed views or fresh perspectives is related to a third criterion, that of *referential adequacy*. Referential adequacy is the degree to which the critic's accounts are informative or telling. Two major functions of criticism are to reeducate our perceptions and to enlarge our understandings. Critics seek to accomplish these aims from both a retrospective and prospective point of view. Retrospectively, referentially adequate criticism asks its readers to revisit prior experiences to consider them in a new light. In locating and naming the subject matter of experience, critics often bring into focus aspects of teaching and learning that were otherwise known only tacitly or at a taken-for-granted level. Referential adequacy in this sense allows readers to articulate knowledge of which they had not been fully aware. Prospectively, we can ask about the degree to which criticism serves as a set of cues or guides to understanding future experience. Because no two experiences are identical, all experiences are "new" to the person who undergoes them. Still, many experiences share similarities, and thus, our past shapes how we understand the present and future situations in which we find ourselves. Criticism seeks to further its own foundations of connoisseurship by providing opportunities for learning. On this basis, forms of referential adequacy represent the educational functions and instrumental utilities of criticism.

David J. Flinders

See also Case Studies; Educational Research, Critiques of; Narrative Research; Qualitative Versus Quantitative Methods and Beyond

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Constructivism

See Radical Constructivism: Ernst von Glasersfeld; Social Constructionism

Continental/Analytic Divide in Philosophy of Education

In the view of many scholars, the Western philosophical tradition, with its long history going back to the days of ancient Greece, ceased to be "a" tradition—that is, a single tradition—shortly after the lifetime of Immanuel Kant (1724–1804). According to this account, about then two different pathways were pursued, each group of philosophers adopting quite different writing and argumentative styles, and each seemingly focusing on different philosophical problems. Furthermore, these two traditions were geographically isolated (at least in the early days), one flourishing on the European continent and the other in the English-speaking world. The two

traditions came to be known as "Continental philosophy" and "analytic philosophy" (or "Anglo-American analytic philosophy"), respectively; and the gulf between them, marked by indifference if not disdain, together with mutual incomprehension, widened with the passage of time. This Continental/analytic divide came to be reflected in the new field of philosophy of education as it evolved during the 20th century. A stereotype of the two traditions caught on; one scholar described it in these terms:

> Precision, conceptual clarity and systematic rigour are the property of analytical philosophy, whilst the continentals indulge in speculative metaphysics or cultural hermeneutics, or, alternatively, depending on one's sympathies, in wool-gathering and bathos. (Stanley Rosen, quoted in Critchley, 2001, p. 34)

The history of the North American Philosophy of Education Society from the late 1950s until the early 1970s bears witness to the existence of this chasm. In the first part of this period, the Society was dominated by individuals who worked within the broad Continental tradition (existentialism was particularly prominent), and analytic philosophers of education were rarely given slots on the programs of the annual conferences—instead, they met clandestinely, "after hours," in the hotel room of some individual who had volunteered to host the reading of a scholarly paper. By the late 1960s and early 1970s, the situation was reversing as seminal work in the analytical mode by R. S. Peters, Paul Hirst, and others in the United Kingdom, and by Israel Scheffler and others in the United States became better understood and more influential. Eventually, analytic philosophy dominated the North American Philosophy of Education Society conference programs; later still, a compromise was reached whereby work from both traditions appeared, a practice that has survived down to the present day (Kaminsky, 1993; Phillips, 2000).

It seems undeniable, then, that there are at least two coexisting modes or traditions; a few moments spent in the relevant section of an academic library will bear this out if further evidence is needed. The problem arises in offering a characterization of the differences between these; the traditional account (a synopsis of which was given above) and the popular stereotype simply do not hold water. In the first place, seeing the divide in geographical terms is quite misleading, for there always have been individuals in the English-speaking world who have pursued philosophy in the so-called Continental mode, and there have been individuals on the Continent who have written and argued in fine analytical style on topics with an analytic flavor. Furthermore, as intercontinental travel and overseas study both became common (together with migration forced on many scholars due to the ravages of war), geographical characterization of the traditions became asinine. Currently, much so-called Continental philosophy (and philosophy of education) is pursued in North America, the United Kingdom, and Australasia, as well as in Europe; and philosophy in the analytic mode can be found in Finland, Sweden, Germany, Austria, and elsewhere on the Continent, as well as in the English-speaking world.

An additional complexity is that some of the roots of English-language analytical philosophy are to be found on the Continent. The German philosopher Gottlob Frege (1848–1925) is often credited with being the father of modern analytic philosophy, and substantial contributions were made by Rudolf Carnap and Ludwig Wittgenstein among others (these two Austrians relocated to the United States and the United Kingdom, respectively); modern philosophy of science owes much—substantively, methodologically, and stylistically—to the logical positivist members of the Vienna Circle and also to Karl Popper (another Austrian)—all of whom moved from Europe to escape Nazi persecution and had an enormous impact on English-language philosophy. Taking note of this history, one authority has suggested that analytic philosophy would be more appropriately identified as Anglo-Austrian than Anglo-American.

The case of John Dewey adds another layer of complexity to the story. It does not seem quite right to characterize him as a Continental philosopher, nor was he an analytic one. He was a towering figure in American (pragmatic) philosophy and also philosophy of education, but he was trained in Hegelian philosophy in the United States (at Johns Hopkins) by professors who had studied in Germany; and his early publications were on Kant and Hegel. However, he also was markedly influenced by William James (a strong opponent of Hegelianism) and by the logician and philosopher of science, Charles S. Peirce. Dewey's influence on philosophers on the Continent has not been trivial, and currently, it is undergoing a new spurt of growth; even some philosophers of education in the United Kingdom read him.

The upshot, then, is that it makes no sense to regard the expression "Continental philosophy" as referring to a place or even to a unified tradition; a distinguished British philosopher and philosopher of education has stated that "the continent, for our purposes, is not a place, but a tendency" (Cooper, 1994, p. 2). The most common tendency pointed out in the literature is the frequent use of high-sounding, vague, unduly complex prose coupled with loosely formulated argumentation—in short, the accusation is that Continental philosophy tends to lack clarity and rigor, in contrast to analytic philosophy, which is clear, straightforward, and logically precise. The analytic philosopher Henry D. Aiken exhibited this tendency when he proclaimed that "reading Heidegger is like trying to swim through wet sand" (quoted in Lucas, 1969, p. 32).

An anecdote involving Karl Popper also is illustrative here. Noted for the straightforwardness and simple elegance of his prose, Popper regarded clarity as perhaps the major virtue of a piece of philosophical (or scientific) writing, for it was associated with openness to criticism and the possibility of error detection (which are important in enabling our ideas to progress toward the truth). On one occasion, when several major Continental philosophers had drawn his ire, Popper wrote this scathing assessment of the intellectual values they passed onto their students—an admiration of "brilliance and impressive opaqueness":

> Many years ago I used to warn my students against the widespread idea that one goes to university in order to learn how to talk, and to write, impressively and incomprehensively. At the time many students came to university with this ridiculous aim in mind, especially in Germany. . . . Thus arose the cult of un-understandability, the cult of impressive and high-sounding language. (Popper, 1976, p. 194)

To put what is perhaps the same point more charitably, it has been suggested that Continental philosophers are more likely than analytic philosophers to write in a literary mode, making use of a variety of literary tropes to make their case. In the 1990s, Jacques Derrida was even accused of producing prose that was full of puns and jokes (and "logical phalluses") and gimmicks akin to those used by the Dadaists—strong condemnation indeed!

However, it is important to recognize that the balance is not completely tipped in favor of analytical philosophy, for it also has had critics. No less a source than *Time* magazine in 1969 ran a story (that could have been written yesterday) on the state of philosophy, in which it was remarked that it had "become a private game for professionals," lacking the social significance it once had possessed. In the past, philosophers had been put to death because of the dangerous significance of their work, but this could no longer happen—not because these days there was more sensitivity about executions, but because "there is no need to kill that which is already dead." The article continued by pointing out that laymen glancing at a recent number of the blue-ribbon *Journal of Philosophy* "would find a brace of learned analysts" discussing which of two logical formulae best expressed the statement "there are brown things and there are cows" (*Time*, reprinted in Lucas, 1969, pp. 29–34). The point was obvious: Analytic philosophy had become sterile (and, strangely enough, this judgment was written about the time there was a groundswell of interest in analytic philosophy of education in the United Kingdom and the United States—for this latter field has always lagged a few years behind its parent discipline).

The difference in focus and in style between the two modes or traditions, touched on earlier, needs to be revisited. Why does work in the Continental tradition use language in such a dense, literary, and (arguably) loose way; and why does analytic philosophy verge on being pedantic in its efforts to be clear and precise? In Simon Critchley's analysis, we need to go back to Kant's philosophy to find the answer. The analytic tradition had its roots in the work of philosophers who focused on Kant's first critique (*Critique of Pure Reason*, 1781). The focus here was to find a grounding for empirical knowledge that avoids the perils of skepticism—essentially, this was an epistemological interest, one that required great linguistic precision and conceptual clarity for its fulfillment in the pursuit of truth. The other tradition (or "culture," as Critchley calls it) stems from Kant's third critique (the *Critique of the Power of Judgment*, 1790); if one takes this route, Critchley (2001) writes, "the burning issue of Kant's philosophy becomes the plausibility of the relation of pure and practical reason, nature and freedom, or the unity of theory and practice" (p. 19). This pursuit—which in essence is the pursuit of practical wisdom and social critique—requires a different set of philosophical skills; it also has been claimed that this focus leads to a greater appreciation of the intellectual history of the relevant ideas.

However, there is an important caveat to enter here; philosophical traditions are not unified, cohesive things, and often internal differences generate more heat than do the external differences with members of alternative traditions. Writing of the Continental tradition, William Schroeder (1999) puts the point this way: "I think that a unilinear model of historical progress in Continental philosophy is misleading and fruitless. But I also believe that the diverse programs in the tradition more often supplement than conflict" (p. 615).

An illustrative example is needed to put flesh onto the bare bones of the preceding discussion. Here, then, are two passages in which "representatives" of each tradition are discussing, in their own typical way, about what is close to being the same centrally important concept. The example is misleading, however, if it suggests that Continentals and analysts were always interested in the same issues; as hinted above, traditions of scholarship tend to have a life of their own, wherein earlier work in the tradition often becomes the focus of vigorous discussion in later work, or is built on by it—the trajectory of a tradition, in other words, is to some extent contingent. (Thus, for instance, the decades-long interest of analytic philosophers of education in the so-called logic and language of education does not run parallel to a similar detailed focus of attention within the Continental tradition.)

For illustrative purposes, then, a good representative of the Continental tradition—one who writes more lucidly than most—is Hans-Georg Gadamer. In 1960, he authored an account (revised in the 1980s) of the concept *Bildung*, which is close to but broader than the English-language concept of education; here is an extended extract:

> In accordance with the frequent transition from becoming to being, Bildung (like the contemporary use of the German word "Formation") describes more the result of the process of becoming than the process itself. The transition is especially clear here because the result of Bildung is not achieved in the manner of a technical construction, but grows out of an inner process of formation and cultivation, and therefore constantly remains in a state of continual Bildung. It is not accidental that in this respect the word Bildung resembles the Greek physis. Like Nature, Bildung has no goals outside itself. (The word and thing Bildungsziel—the goal of cultivation—is to be regarded with the suspicion appropriate to such a secondary kind of Bildung. Bildung as such cannot be a goal, it cannot as such be sought, except in the reflective thematic of the educator.) In having no goals outside itself, the concept of Bildung transcends that of the mere cultivation of given talents, from which concept it is derived. The cultivation of a talent is the development of something that is given, so that practicing and cultivating it is a mere means to an end. Thus the educational content of a grammar book is simply a means and not itself an end. Assimilating it simply improves one's linguistic ability. In Bildung, by contrast, that by which and through which one is formed becomes completely one's own. To some extent everything that is received is absorbed, but in Bildung what is absorbed is not like a means that has lost its function. Rather, in acquired Bildung nothing disappears, but everything is preserved. (Gadamer, 1993, p. 11)

Contrast this with part of the account of the English-language concept of education, written at approximately the same time by perhaps the central figure in so-called ordinary language analytic philosophy of education, the British academic R. S. Peters; there were several parts to his analysis, which was based on his understanding of ordinary English usage:

> (a) The educated man is not one who merely possesses specialized skills. He may possess such specific know-how but he certainly also possesses a considerable body of knowledge together with understanding. He has a developed capacity to reason, to justify his beliefs and conduct. He knows the reason why of things as well as that certain things are the case. This is not a matter of just being knowledgeable; for the understanding of an educated person transforms how he sees things. It makes a difference to the level of life which he enjoys; for he has a backing for his beliefs and conduct and organizes his experience in terms of systematic conceptual schemes. (b) There is the suggestion, too, that his understanding is not narrowly specialized. He not only has breadth of understanding but is also capable of connecting up these different ways of interpreting his experience so that he achieves some kind of cognitive perspective. . . . (c) In contrast, too, to the instrumentality so often associated with specialized knowledge, the educated person is one who is capable, to a certain extent, of doing and knowing things for their own sake. He can delight in what he is doing without always asking the

question "And where is this going to get me?" This applies as much to cooking as it does to chemistry. He can enjoy the company of a friend as well as a concert. And his work is not just a chore to be carried out for cash. He has a sense of standards. (1973, p. 240)

This extended example, though far from perfect, illustrates both the virtues and the drawbacks of the Continental and analytic traditions, cultures, or modes. And it also points to a charitable conclusion, namely, that both approaches probably are useful and that they are to some degree complementary. Both too have their dangers—sterility and scientism on the one hand and (as Critchley concedes) obscurantism on the other.

Deborah Kerdeman and D. C. Phillips

See also Dewey, John; Foucault, Michel; Heidegger, Martin; Hermeneutics; Kant, Immanuel; Lyotard, Jean-François; Peters, R. S.; Phenomenology; Positivism; Russell, Bertrand; Scheffler, Israel; Wittgenstein, Ludwig

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Cosmopolitanism

Cosmopolitanism is not an easy term to define, given its long conceptual history and shifting contexts. The first known usage of the term is by the Cynic Diogenes in the 4th century BCE. An itinerant from Sinope who lived on the streets of foreign city-states, Diogenes, when asked where he was from, replied, "I am a citizen of the world [*kosmopolites*]." Etymologically, the term is derived from the Greek *kosmos* (universal order) and *polis* (city-state), which together give rise to the notion of a community that is of the world. This emphasis on worldliness and a sense of belonging to a shared community, as opposed to the narrowly construed sense of family, tribe, and nation, has influenced thinkers as diverse as the Roman Stoics, Augustine, and Immanuel Kant.

For Stoics such as Cicero and Seneca, cosmopolitanism was in conversation with the turbulence of imperialism and its multicultural legacy. Here, the shared political community was based on granting citizenship to all human subjects on the basis of their rationality. There is thus a unifying gesture in cosmopolitanism that seeks to bring together cultural differences under a single political umbrella. By the time of early Christianity, Augustine's cosmopolitanism focused instead on an understanding of the unified religious community (the "City of God"), in which diverse individuals were brought together through their universal love of God. In the Renaissance, the great humanist Erasmus professed the idea of tolerance across cultural differences, making a claim for a sense of belonging to a world beyond one's own national or religious interests. Cosmopolitanism received renewed attention in the 18th century in the philosophy of Immanuel Kant, whose work continues to inform much current scholarship on cosmopolitanism across various disciplines, including education. It is important to remember that cosmopolitanism is not merely a Western idea but has also appeared in the ancient scriptures of the Upanishads and Confucius's *Analects* (Hansen, 2011).

Broad definitions of the term abound, and one might also group these various definitions into

political cosmopolitanism, economic cosmopolitanism, cultural cosmopolitanism, and moral cosmopolitanism, each one offering a specialized focus (Kleingeld & Brown, 2006). While all definitions of cosmopolitanism have in common the ideas that we are part of a shared world community and that there is a need for respect of other cultures and traditions, there are very different theories about what cosmopolitanism ought to mean today for political, social, cultural, and educational projects. The wide range of theorizing devoted to cosmopolitanism can be captured by two general orientations: classic cosmopolitanism and new cosmopolitanism.

Classic Cosmopolitanism

Classic cosmopolitanism has emanated primarily from the Stoics in classical times and from Immanuel Kant in modern times. Largely occupying the disciplines of philosophy, political theory, and international relations, most contemporary revivals of cosmopolitanism, however, are indebted to the Kantian tradition as opposed to the Stoic one, with the work of Martha Nussbaum being a notable exception in its combination of the two. Indeed, many have attempted to redefine Kant's early articulations of a world federation, the idea of belonging to a common world, and the fostering of values that cultivate a sense of our shared humanity. Such redefinitions are put in the service of rethinking political institutions and alliances and the moral ground on which such political reforms can take place. This is often accomplished through appeals both to cultural pluralism and to universal principles. In this sense, these renderings deal primarily with political, economic, and moral cosmopolitanism.

For example, two of the most influential theorists have combined elements of present-day liberal democracy with Kantian aspects of cosmopolitanism. David Held (2005) advocates for a "cosmopolitan democracy" based on the realignment of international institutions that would promote democracy globally. Underlying Held's pluralism are familiar Kantian commitments to autonomy and impartial reasoning, which are identified as "metaprinciples" of cosmopolitanism. Nussbaum (1997) argues for a moral understanding of cosmopolitanism, based on our empathic imagination and our capacity for universal reason. Thus, what we share universally forms the moral bedrock for creating a world community that crosses cultural borders. These and other revivals of classic cosmopolitanism base their views on appeals to universal humanity, reason, rights, and world citizenship, taking these (in varying degrees) as fundamental to the project of working toward a more just, harmonious, and peaceful world order.

New Cosmopolitanism

The new cosmopolitanism that emerged in the 1990s can be seen in direct response to the mounting pluralism in societies around the globe, to postcolonialism's emphasis on the importance of this pluralism for founding new movements of social and political thought, and to poststructural accounts of the production of subjectivity not as founded on abstract notions of human nature but as proliferating in encounters with language, discourses, and embodied others. Most often appearing in literary theory and cultural studies, this new cultural cosmopolitanism distances itself from its classic political, economic, and moral cousins. Instead, what motivates these theorists' appeals to cosmopolitanism is a focus on it as a way of life and culture. Thus, although they share with classical forms of cosmopolitanism the idea of transforming society through respect for human differences, new cosmopolitan theories do so less through an appeal to abstract notions of human nature or to metaprinciples of autonomy, impartial reasoning, democracy, or justice and more through radical appeals to the way individuals and groups inhabit and create spaces of cross-cultural exchange.

These theorists often identify cosmopolitanism with cultural hybridity and deracination. There is thus a "loosening up" of the universal terms through which cosmopolitanism is often understood. Malcomson (1998) coins the term *actually existing cosmopolitanisms* as a way of suggesting that it is the lived realities of transnational border crossing—both in terms of movement of populations and in the flow and exchange of ideas—that are the defining features of cosmopolitanisms, in the plural. In addition, the idea that cosmopolitanism itself is differentially experienced and theorized according to one's location in the world acts to frame our political attention. What is evident in the literature, as a result, is a built-in reflexivity about the nature of the term itself: how it shifts its meaning according to the time and location in which it is articulated. Hence, discussing cosmopolitanisms, in the plural, means that the content of the term alters according to whether one is discussing postcolonial Mumbai, Byzantium during the Ottoman Empire,

or present-day New York. Thus, these new theories refuse to see cosmopolitanism merely as a reflection of Western Enlightenment principles. What is highlighted here is not so much a unified ideal but a set of ideas that are deeply contingent on specific times and places.

Education and Cosmopolitanism

Classic cosmopolitanism has to date been more influential than the new cosmopolitanisms in educational circles. Here, the task has been to link cosmopolitanism to ideas of global citizenship, to democratic respect for cultures, and to universal forms of rationality—ideas that are largely based on Kant's understanding of cosmopolitanism. Nussbaum's work along these lines in relation to liberal education has been highly influential in promoting the moral and political aims for education. The focus on cosmopolitan citizenship, in particular, has been identified as a key educational issue in coping with the increasing forms of economic, political, and social globalization. Although these features of Kantian cosmopolitanism have been central to educational research, there are also those who have taken a different tack, relying more heavily on the new cosmopolitanisms without necessarily eschewing outright the classic texts in the field. David Hansen (2011), for one, promotes a "cosmopolitan orientation" to the field of curriculum and to teaching and is mindful of the centrality of the arts and cultural practices in creating a sense of responsiveness to increasingly complex forms of interconnectedness. Other scholars offer critiques of classic cosmopolitanism from the point of view of its difficulty in responding to human plurality in education and in facing the antagonisms that go along with diverse communities and their histories. In light of the continued augmentation of cultural, economic, and political interdependency around the globe, educational researchers of all persuasions will no doubt be drawn to cosmopolitanism's appeal for some time to come.

Sharon Todd

See also Citizenship and Civic Education; Globalization and World Society; Multicultural Citizenship; Multiculturalism

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Cost–Benefit and Cost-Effectiveness Analyses

Both cost–benefit analysis (CBA) and cost-effectiveness analysis (CEA) are used to evaluate programs. CBA is used to compare a program's costs with the dollar value of its benefits. CEA relates the cost of a program to its benefits but does not assign a dollar value to the benefits. This entry discusses how each analysis is performed and details some of the difficulties in estimating and calculating program costs and benefits.

Cost–Benefit Analysis

CBA, also called benefit–cost analysis, is a method used by economists to assess the efficiency of a policy or program. The goal of this type of analysis is to quantify all the impacts of a policy in monetary terms, so that they can be easily compared. If

the benefits more than offset the costs of the policy, the policy is thought to enhance efficiency or social welfare (i.e., the sum of the well-being of everyone in society). In mathematical terms, analysts simply subtract costs from benefits (although some prefer to produce a ratio by dividing benefits by costs). If the outcome of this subtraction is positive, then the policy generates "net benefits," is efficient, and should be implemented: The gains to the "winners" more than offset the losses of the "losers." If the calculation is negative, leading to "net costs," then the policy is inefficient and should not be implemented. Two or more policies may be compared directly by calculating the net benefits/net costs generated by each.

The method sounds very simple, but implementation is much more complicated and controversial. It is not always clear whose benefits/costs should be counted, how to monetize benefits/costs, and whether the estimates are accurate. Although economists continue to research and refine many CBA practices, some common "rules of thumb" have emerged to help guide practitioners. A few of these are highlighted below.

A first step in a CBA is to determine whose costs and benefits should be counted, or who has standing. Ideally, one should count all members of the relevant "society" to appropriately judge social welfare, but it is not clear how to define "society" in the first place. In CBA, economists use a geographic definition, including all parties within a particular country, state, city, neighborhood, school district, and so on. The size of the geographic area will depend on how far the analyst believes that the major impacts will extend. For example, if conducting a CBA of an afterschool program for at-risk youths in one school, the analyst might consider the neighborhood or school district the relevant geographic area, but if the school is heavily financed by state taxpayers or if impacts extend beyond district borders (e.g., graduates will take jobs around the state), one could make the case for a state-level analysis.

Importantly, in a true social or economic CBA, one cannot omit any stakeholders within the geographic area from the calculation, although in reality, analysts often do. In that case, the CBA does not measure efficiency but only measures the impacts on the included groups.

Monetizing Impacts

Quantifying and monetizing the impacts of a policy is the most difficult, time-consuming, and controversial aspect of CBA. Of course, some financial costs/benefits are already in dollars and require little extra in the way of estimation, but many others, particularly in education, are much more difficult to monetize. Ideally, even intangible costs/benefits such as time, a sense of community, increased self-esteem, the value of preserving natural habitats, and so on should be monetized, but sometimes this task is nearly impossible. Again, economists have generated some useful shortcuts for monetizing some of the tougher costs and benefits.

For example, to value time gained or lost due to a policy, economists generally agree that a person's hourly wage should be used. A person's wage reflects not only the value to society (i.e., an employer) of one hour of that person's time but it also reflects the rate at which a person is willing to "sell" an hour of her time—so it is also implicitly the value to her of an hour of time, whether used for work or not. In education research, wages are also used as a measure of the value of attending or completing a certain level of education. For example, if a policy improves high school graduation rates, we would monetize this impact by multiplying the number of additional students graduating due to the policy by the average difference in earnings between high school graduates and dropouts.

Discounting

A CBA can be conducted to analyze impacts of a policy over any number of years. When more than one year of impacts are analyzed, the impacts in each year can be added together. However, before adding them up, the impacts beyond the first year need to be "discounted" to make the dollar values equivalent to those in the first year. The idea is that money (or impacts) in the future are worth less to us. Even in the absence of inflation, we would prefer to have $100 today than to trade it for $100 a year from now. To make that trade appealing, we would need to be paid interest. In CBA, rather than interest rates, we use the "social discount rate" (SDR) to change the dollar values in future years back to their equivalent today. The SDR is the average rate that individuals in society make trade-offs over time. The actual value of the SDR is quite controversial, with analysts using anywhere from 0% to about 9%. Most government agencies require a particular rate to make all their analyses comparable: The average SDR as of this writing is about 3%. A simple formula or the "net present value" (NPV) function in Excel is all that is needed to convert the costs/benefits in the

future back to "present value." When all impacts are in present value, the net benefits/net costs of the policy are now called "net present value."

Sensitivity Analysis

After calculating the NPV of the policy, it would seem from the simple description above that the CBA is done. However, no CBA is complete without some form of sensitivity analysis. At its simplest, a sensitivity analysis can entail changing the most uncertain, largest, or most controversial value(s) in the analysis one at a time, holding all else equal to see if the results change (i.e., if NPV goes from positive to negative, or vice versa). More complicated analyses involve changing multiple values simultaneously and using Monte Carlo methods, a class of computational algorithms that rely on repeated random sampling, among others. A good CBA will carefully explain which values drive the findings and which are the most problematic. The analyst should also discuss any impacts that were left out of the analysis and how they might have changed the results (or not) had they been included.

Cost-Effectiveness Analysis

CEA offers an alternative to CBA that, while much less comprehensive, can be more practical in some situations. Rather than measuring efficiency, CEA does just what it says—it assesses the cost-effectiveness of a policy or program. To do this, the analyst compares all the (discounted) costs of a project (calculated as in CBA) to a single quantified, but *not* monetized, benefit, which serves as a measure of effectiveness. The goal is to divide costs by the effectiveness measure to arrive at a ratio of dollars per unit of effectiveness.

For example, if the main goal of building a bridge is to save commuters time, then the analyst would tally the costs of the bridge (e.g., building, maintenance, etc.) and divide them by the number of commuter hours saved. The "cost-effectiveness ratio" might be something like $20 per commuter hour saved. Now the question becomes whether policymakers should build the bridge. Unlike net costs/net benefits, the cost-effectiveness ratio does not give you a decision rule. Is $20 per commuter hour a good deal or a bad one? For CEA to be helpful in this regard, one must compare it with something else. If a second bridge design has a cost-effectiveness ratio of $10 per commuter hour, then this second design is deemed more cost-effective and should be undertaken instead of the first. CEA is therefore most helpful when there are multiple projects of similar scope under consideration—because it uses a ratio, CEA masks issues of scale—that is, one may generate similar ratios for very large ($100 million/100 million hours = $1/hour) and very small projects ($1 million/1 million hours = $1/hour).

One of the most important issues to consider in CEA is the choice of an effectiveness measure. Because CEA typically uses only one effectiveness measure, all other benefits are ignored. The idea of the effectiveness measure is to measure the outcome that is most indicative of the success of a project. In education, finding a measure of effectiveness may be particularly challenging, since there are often multiple goals of a project (e.g., improved test scores, higher graduation rates, etc.), and they can be difficult to measure. In the case of the after-school program discussed above, the best measure may be the number of dropouts prevented, but this may be hard to evaluate. Instead, one might just use the number of students enrolled in the program. These two measures would yield very different results. To get around this problem, some studies have used combined measures of effectiveness, for example, generating an index calculated from multiple outcome measures as the effectiveness measure. This can be a good solution, but the results can be difficult to interpret, as the ratio becomes dollars per one-unit increase in the index.

Conclusion

In sum, both CBA and CEA can be useful tools in the evaluation of education programs and policies. CBA, while more comprehensive and straightforward, is more time-consuming than CEA. When using either tool, analysts should be careful to explain all assumptions, conduct a sensitivity analysis, and discuss any impacts that have been left out of the analysis.

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See also Evaluation of Educational and Social Programs: Models

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See Social Reconstruction

Creative and Lateral Thinking: Edward de Bono

Edward de Bono is renowned for his criticism of logical, linear, and critical thinking and for his range of thinking techniques to facilitate potential creative abilities that emphasize thinking as a learnable skill and deliberate act. He originated the concepts of lateral thinking (literally sideways thinking) and parallel thinking to distinguish the many techniques for deliberative creative thinking that he has developed from what he considers to be normal perceptions regarding creativity and innovation.

De Bono (1994) draws attention to traditional critical thinking as a judgmental and adversarial process and compares it with parallel thinking, which he claims emphasizes cooperative and coordinated thinking. Critical thinking, he says, has its foundations in a method of philosophizing, known as the Socratic method, first used by the ancient Greek philosopher Socrates and developed further by Plato and Aristotle (whom together de Bono calls the "Gang of Three"). However, his contention is that the Socratic method is focused on discovering the truth and uses adversarial techniques such as refutation of opposition, which rests on is/is not, true/false, either/or dichotomies—a form of argumentation in which contradictory claims are argued to strengthen one side's argument and diminish the opposing position. In practice, each interlocutor takes a different position and points out contradictions to attack the other position in order to prove the other side wrong and, consequently, force a judgment.

De Bono claims that this form of argumentation, which for him is synonymous with the Socratic method, pervades Western thought and that it is "intrinsically fascist in nature" due to its appeal to adversarial thinking. He does not deny a place for the Socratic method but rather argues that it has deep-seated inadequacies no longer able to deal with the kind of radical change that has become a feature of the modern world. It is not so much the search for truth that is required for the increasing complexity of contemporary societies but the development of creative and more effective approaches to problem solving. Subsequently, he introduced the term *parallel thinking* to describe what he considers to be a fundamentally different method of thinking; not only does it reject the adversarial framework in favor of a cooperative model for thinking, but it emphasizes possibility and "designing forward" from the "field of parallel possibilities" by placing claims in parallel instead of in opposition to each other. To use de Bono's preferred terms, useful outcomes are obtained by "design" rather than by "judgment."

De Bono has many formal techniques that can be deliberately applied to teach structured, parallel thinking. His most notable technique, lateral thinking, aims at restructuring thought patterns from which new combinations can arise. De Bono assumes that lateral thinking is the basis of insight and creativity because it is for changing concepts and perceptions and, therefore, is most effective prior to the use of traditional methods of vertical or logical thinking. Its value lies especially in problem solving since it generates alternatives, challenges previously held assumptions, and develops innovative thinking. He argues that thinking can be more effective through direct teaching of thinking as a skill rather than through resisting habitual thinking patterns. In doing so, de Bono makes a distinction between thinking and intelligence and places emphasis on the development of *metacognitive* thinking skills. Accordingly, it is necessary to be conscious of how we think, for new thoughts "can be applied only if one is aware of one's own thinking or thought processes, and understands new thinking techniques" (Burgh, 2005, p. 26).

De Bono has developed formal techniques for deliberate creative thinking, which can be contrasted to coping or reactive thinking strategies. The latter can function only when there is something to react against; it does nothing to produce proposals. Deliberate creative thinking, on the other hand,

focuses attention on what he calls mapmaking—a type of thinking that requires a certain detachment.

De Bono's largest curricular program is the Cognitive Research Trust (CoRT) Thinking Program. It uses strategies, called attention-directing tools or devices for generating ideas, to direct the attention of students to aspects of situations that might have otherwise been neglected before they make decisions. Some of the techniques used in CoRT are as follows: PMI (Plus, Minus, Interesting); CAF (Considering All Factors); C&S (Consequences and Sequel); AGO (Aims, Goals, Objectives); FIP (First Important Priorities); APC (Alternatives, Possibilities, Choices); and OPV (Other Point of View). The main aim of the CoRT thinking lessons is to improve planning and decision making. By employing the attention-directing tools of CoRT, students apply the skill of operacy, a term coined by de Bono to describe action thinking, which he maintains ranks alongside literacy and numeracy.

Another use of attention-directing tools is the Six Thinking Hats that de Bono designed for teaching structured parallel thinking with groups of participants. The Six Hats supposedly represent every basic type of thinking. Each hat has a different color that provides the name for the hat as well as its related function. The white hat suggests neutrality and objectivity. The red hat deals with emotional views, feelings, hunches, and intuitions. The black hat represents the devil's advocate. The yellow hat covers hope and positive thinking. The green hat expresses creativity and new ideas. The blue hat is concerned with thinking about thinking, the organization of the thinking process, and the use of the other hats. Throughout the discussion, hats are used and exchanged, although it is not necessary that people always consciously use one hat or another.

The purpose of the Six Hats is to provide a tangible way of translating intention into performance by simplifying and unscrambling thinking so that the thinker can deal with one mode at a time. It was also designed to allow a switch in modes of thinking by deliberately putting on a particular metaphorical hat depending on which mode of thinking is required. De Bono contends that the artificiality of the thinking hats provides a formality and a convenience for requesting a certain type of thinking either by oneself or by others. Each thinker follows exclusively the mode of thinking indicated by the hat that is being used. The metaphorical use of the thinking hats also establishes rules for the game of thinking, and anyone involved in the game will be aware of these rules. The Six Thinking Hats framework, therefore, provides a process that can be self-monitoring.

De Bono's efforts as an advocate for lateral thinking and creative thinking as an essential skill for creativity and innovation have not gone without criticism. Robert Weisberg, a cognitive psychologist, argues that there is insufficient evidence for the effectiveness of lateral thinking and that the creative process is better described as a process of logical thinking, trial and error, feedback, and reflection. Another criticism is that his description of traditional Western thinking overemphasizes the more extreme forms of adversarial argument apparent in some traditional methods of classroom practice, assuming that all Western philosophical thinking is *necessarily* adversarial. An alternative view of Socrates is that the purpose of his method of philosophical inquiry was to show people how to think for themselves rather than to destroy another person's argument for the sake of proving one's own position. Indeed, other thinking frameworks, such as Philosophy for Children, founded on nonadversarial conceptions of philosophy, also employ the deliberate teaching of skills to encourage creative and divergent thinking. This raises a further criticism of de Bono that while he has been highly successful in gaining the attention of a wide readership, his contributions are not particularly original in substantive content but are restatements of the previously developed concepts of "convergent thinking" and "divergent thinking" without historical or scholarly attention given to key figures in the field of critical thinking and creativity in which he is situated.

Gilbert Burgh

See also Critical Thinking; Metacognition; Socrates and Socratic Dialogue

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Creativity

Over the centuries, philosophers and researchers with different disciplinary backgrounds have debated how creativity is most appropriately conceptualized. There is agreement that fundamentally creativity involves framing new approaches or new questions that enable transition from what is to what might be, and that generation of outcomes (ideas or products) that are considered inherently novel and original are manifestations of creativity. It can also involve framing new questions, generating new ideas, and reflection on both. In this entry, the analysis of creativity that is presented is informed by research in the arts, social sciences, and computational science, and the implications for educational theory and practice are discussed.

Manifestations of creativity can be arranged on a continuum. One end denotes low originality and low impact, or "little-c" creativity (sometimes referred to as "everyday creativity')—for example, generating and enacting an idea that is new to oneself or a small group of others, such as would be involved in making a meal with unusual ingredients, or proposing a change or improvement in a school community. Margaret A. Boden (2004) refers to such novelty at a personal level as psychological and the idea as P-creative. Anna Craft (2001) refers to the same phenomena as "little-c" or personal effectiveness and lifewide resourcefulness, while James Kaufman and Ronald Beghetto (2009) distinguish mini-c creativity (personal meaning making) from everyday creativity or little-c (creativity shared with others), and they introduce "pro-c" (professional) creativity. The other end of the continuum donates high originality and impact, or "big-C" creativity (such as possessed by Gandhi or Einstein); this is what Boden calls "H," or "historical," creativity that changes the world, or that generates novel ideas that transform paradigms.

From the Divine to the Human: Three Psychological Traditions

In premodern perspectives, superhuman force was seen as the source of creativity. For example, Plato referred to the Muses as the source of inspiration for scientists, musicians, artists, and poets. This classical perspective saw the creator as passive and as "receiving" divine inspiration, indeed being "an empty vessel that a divine being filled with inspiration" (Sternberg, 2003, p. 90). This perspective, Sternberg argues, prevented its exploration using scientific methods. By contrast, since the Renaissance humans have been recognized as active agents in creativity (Sawyer, 2006) and since then, the concept has been investigated by researchers. Psychologists were drawn to the study of this human capacity, and they developed a particular focus on what an understanding of creativity can tell us about learning. During the 20th century, three traditions in particular have been influential: cognitive, psychometric, and humanistic.

Cognitive Approaches

Concerned with modeling, the earliest cognitive psychology work was undertaken by Graham Wallas (1926), who identified four phases in the creative process: preparation, incubation, illumination, and verification. Later researchers identified four "dimensions": *product* (creative outcomes), *person* (characteristics or tactics of creative individuals), *process* (habits or patterns), and *persuasion* (impression that convinces others that something is creative). Elizabeth Watson (2007) extended this by adding *place*, recognizing the importance of both environment and culture; and Aaron Kozbelt, Ronald Beghetto, and Mark Runco (2010) introduced *potential*, with an emphasis on learning, recognizing that potentially creative ideas may first emerge as unexpected ideas, which in the context of the classroom may be easily dismissed as off-topic and yet may be signifiers of creative potential.

Some cognitive work focuses on habitual creativity, drawing on both psychology and other related disciplines to explore how habits evolve creatively in dynamic contexts; some research foregrounds tensions between automatic reflex behavior and habitual creativity.

Psychometric Approaches

Efforts to measure degrees of creativity using psychometric methods were begun by Joy Paul Guilford in the 1950s; his work generated interest in tests that could throw light on individual differences. Focused on everyday creativity, offering ease of both administration and scoring together with the opportunity to sample large populations, they proved popular (Sawyer, 2006). Psychometric approaches have been

used to explore creativity, the creative personality or behaviors, characteristics of creative products, and key aspects of environments that successfully foster creativity. The Torrance Tests of Creative Thinking (1974), involving figural and verbal tasks for use with children and adults, are perhaps the most widely used and have been translated into many languages (Baer & Kaufman, 2006). The verbal element contains activities such as unusual uses, unusual questions, ask and guess, and just suppose. The figural element includes tasks focusing on picture completion, picture construction, and repeated figures of circles or lines. The tests prompt responses, which are then scored for their originality, flexibility, fluency, and elaboration together with abstractness of titles and resistance to premature closure. In addition, Hans Jellen and Klaus Urban (1986) developed a test focused only on image production: the Test for Creative Thinking—Drawing Production, which can be used from kindergarten. All these tests have focused on divergent thinking. More recently in France, Todd Lubart, Maud Besançon, and Baptiste Barbot (2011) have developed tests of creative potential, which incorporate both divergent (or exploratory) and convergent (or integrative) thinking designed for use with children aged around 6 to 14 years. These focus, through both the graphic/artistic domain and the verbal/literary domain, on the prediction of creative potential. For divergent thinking, graphic tasks are generating an abstract drawing and generating a concrete drawing, and verbal tasks are creating story beginnings and endings; for convergent thinking, graphic tasks are creating a drawing based on given elements and creating a story based on a title or on characters. The tests, scored by trained judges through an electronic system, generate a creativity profile for each participant.

It has been argued that as well as measuring creativity, these tests can serve as tools to enhance it. On the other hand, the psychometric stance has been criticized for its lack of recognition of the impact of context on "performance," for measuring not creativity but aspects of intelligence, for defining creativity too narrowly, and for correlating weakly with other indicators of creative behavior.

Some psychometric approaches have focused since the mid-20th century on aspects of personality or behavior rather than on the divergent thinking that marks creativity. For example, openness to experience, autonomy, and introversion are emphasized by Gregory Feist (1999); others emphasize risk-taking orientation, tolerance of ambiguity, curiosity, and internal measures of evaluation (e.g., Sawyer, 2006).

Humanistic Approaches

An approach that has its focus on the personal perspective and is concerned with motivation was initiated by Abraham Maslow (1943) and Carl Rogers (1954). Maslow's "hierarchy of needs" modeled how "self-actualized creativity" is only feasible after all basic needs are satisfied, while Rogers's work focused on the role of positive and unconditional regard in developing psychological safety for creative behavior.

From What Is to What Might Be: New Directions

These traditions dominated the early-21st century psychological research. However, as Richard Caselli (2009) argues—drawing from literature spanning neurobiology, psychology, cognitive science, and neuroeconomics—creativity involves bridging the gap between what is (i.e., what already exists) and what should be (the enactment of imagination). This has resonances with Craft's work on "possibility thinking," which emphasizes the transition from *what is* to *what might be* through both "what if?" questions and "as if" behaviors.

Creativity scholars are themselves engaged in transitions to what might be, in the growing recognition of creativity as a social phenomenon having emotional dimensions as well as with motivation, mood, and interaction as key elements. Exploring how high-quality creative ideas are produced is as key an element in much social research as is the ethical dimension. In a world characterized by radical uncertainty, some argue that *wise* creativity (Craft, Gardner, & Claxton, 2008) is necessary, in other words considering the potential impact of creative ideas and actions. Such scholars argue that attending to the impact of ideas on wider communities and contexts is vital to sustained futures; this is referred to as wise, humanizing creativity (Chappell & Craft, 2011; Craft, 2013).

Anna Craft

See also Aesthetic Education; Creative and Lateral Thinking: Edward de Bono; Multiple Intelligences: Howard Gardner

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Critical Race Theory

Critical race theory (CRT) is a set of theories that argues that racism is normal, not aberrant, in U.S. life. Legal scholars proposed the notion of CRT after concluding that even their more liberal White colleagues did not fully understand the incredible burden that race put on the people of color, despite advances in civil right rulings and legislation. Many liberal White legal scholars understood that the law and its application were unfair to a variety of people because of their status identities—race, class, gender, sexuality, immigrant status, language use, or ability. Their solution to the built-in inequality of the law was to propose critical legal studies in workshops that analyzed legal scholarship and legal precedence. However, in the midst of one of the workshops, Black legal scholars recognized that even within this alternate space, issues of Black life and experience with the law continued to be marginalized. Realization of this marginalization gave birth to CRT—a place in legal scholarship where race would be central to analysis of inequality.

Early legal scholars in CRT include Derrick Bell (who is widely regarded as the "Father of Critical Race Theory"), Kimberly Crenshaw, Richard Delgado, Patricia Williams, Lani Guinier, Mari Matsuda, Charles Lawrence III, Neil Gotanda, Cheryl Harris, Linda Greene, Gary Peller, Kendall Thomas, John O. Calmore, and others. They argued that, in civil rights law, the traditional approach to addressing inequality through legislation and filing *amicus* briefs was too slow and ineffective to change the social and civil status of African Americans and other non-Whites. Indeed, CRT scholars argued that civil rights laws are never enacted unless those laws also benefit Whites.

On July 2, 1964, President Lyndon B. Johnson signed the Civil Rights Act, the most sweeping civil rights legislation since Reconstruction. The Civil Rights Act bans any discrimination based on race, ethnicity, color, religion, or national origin. On June 4, 1965, President Johnson gave a speech at historically Black Howard University in which he explained that civil rights law alone was not enough to correct inequality, and he provided the underlying rationale for affirmative action:

> You do not wipe away the scars of centuries by saying: "now, you are free to go where you want, do as you desire, and choose the leaders you please." You do not take a man who for years has been hobbled by chains, liberate him, bring him to the starting line of a race, saying, "you are free to compete with all the others," and still justly believe you have been completely fair. . . . This is the next and more profound stage of the battle for civil rights.

> We seek not just freedom but opportunity—not just legal equity but human ability—not just equality as a right and a theory, but equality as a fact and as a result. (Chace, 2011)

On September 24, 1965, President Johnson issued Executive Order 11246, which required government contractors to "take affirmative action" toward prospective minority employees in all aspects of hiring and employment. Contractors must take specific measures to ensure equality in hiring and must document these efforts. On October 13, 1967, the order was amended to cover discrimination on the basis of gender as well.

The inclusion of gender as a part of the federal affirmative action mandate meant that the beneficiaries of the order would now also be White women. Since there are more White women than members of any one group of people of color, the possibility arose that the hard-fought civil rights benefits would now flow into the White community.

The major tenets of CRT include the claim that racism is normal, not aberrant, and constitutive of the fabric of U.S. life and culture, a belief that much of reality is socially constructed, the use of storytelling (or more accurately, counterstorytelling) as a way for marginalized groups to address their marginalization, use of critical social science as a tool for analyzing inequality in the society, and interest convergence as a vehicle for moving civil rights agendas forward.

The belief that racism is normal is a difficult one for most Americans to accept. Given a cultural narrative of never-ending progress and noble purpose, to suggest that racism is both a normal and predictable condition in the nation meets with denial and active resistance. Thus, those who point out the ongoing pattern and systemic nature of racism are discounted as malcontents or "racial opportunists." Critical race theorists identify "microaggressions" that speak to the daily racial indignities that people of color suffer. For instance, common everyday occurrences such as being ignored by a merchant, challenged as to one's ability to pay, or being mistaken as a subordinate reflect the kinds of microaggressions that people of color experience. For CRT scholars, it is the accumulation of these events that is telling rather than the more dramatic or tragic events that occur and gain public attention.

Derrick Bell (1993) codified the "everydayness" of racism by promoting what he termed *the rules of racial standing*:

> 1. No matter what their experience or expertise, blacks' statements involving race are deemed "special pleading."
>
> 2. Not only are blacks' complaints discounted but black victims of racism have less impact as court witnesses than whites.
>
> 3. Few blacks avoid diminishment due to their racial standing.
>
> 4. When a black person or group makes a statement or takes an action that the white community or vocal components thereof deem "outrageous," the latter will actively recruit blacks willing to refute the statement or condemn the action.
>
> 5. True awareness requires an understanding of the Rules of Racial Standing. As an individual's understanding of these rules increases, there will be more and more instances where one can discern their workings. (pp. 111–121)

The notion that much of reality is socially constructed is not a new one; however, the primary research paradigms through which social scientists work suggest that an independent reality is being empirically investigated. Legal scholars know that the work of American jurisprudence is about constructing a reality—to argue a case and a point of view. More pointedly, the very concept of race is a social construction—natural science refutes the existence of race as a viable category, but social science uses it as a primary organizing status category, and sociologists, psychologists, political scientists, and educationists all use it. Thus, the tension between race as a social construct and race as a biological reality forces scholars to deal with the shifting nature of knowledge and to question heretofore "epistemologically verified" notions of the social world.

Storytelling (or counterstorytelling) is an important tool for the CRT scholar. These stories can be fantastical (e.g., see "Space Traders," in Bell, 1993, chap. 9) or realistic, but what they have in common is that they are fictional tales designed to illustrate legal and/or moral dilemmas produced by the way laws, policies, and statutes are developed and implemented. The fantastical storytelling can take on the characteristics of the literary genre known as magical realism, commonly found in the literature of Latin America and described by Schroeder (2004). Challengers to CRT point to storytelling as nonscientific, lacking rigor, and antithetical to the scholarly process.

However, CRT scholars push back with claims that all scholars—especially legal scholars—tell stories, but that those stories may take the form of reports, logs, or descriptions of so-called empirical claims.

CRT scholars employ critical social science as a tool for analyzing racial situations and legal precedence. This means that their work starts from a place where inequity is assumed. That inequity might deal with race, class, gender, sexuality, disability, and so on; scholars such as Pierre Bourdieu (1986), Michel Foucault (2002), Nancy Fraser (2003), Paulo Freire (1970), or Antonio Gramsci (2011) can be instructive in providing an alternative vision of the social world—one that assumes the existence of inequality and the need to address it.

Another primary tenet of CRT is an acceptance of the interest convergence principle. This notion was used by Bell (1980) to argue that Black social, economic, and civil concerns will be addressed only when they intersect or converge with those of Whites. Thus, even among our most cherished civil rights laws, CRT scholars uncover the way these laws also serve White interests. For example, the landmark *Brown v. Board of Education* (1954) decision is touted as one of the Supreme Court's finest moments. The ruling that "separate is inherently unequal" seemed on the surface to be solely a commitment to racial equality. Bell (1980) and later Mary Dudziak (1995) argued that despite the seeming civil rights meaning of the decision, actually it also served as a foreign policy move during the Cold War to signal to nonaligned states that the United States provided fair and equal treatment under the law to its Black citizens. However, more than 50 years past *Brown*, the majority of Black and Brown children attend deeply segregated schools. Even in those places where school desegregation was attempted, we see retrenchment from the law.

CRT is approximately 20 years old and is exploding into a variety of areas beyond law, such as sociology, education, anthropology, economics, cultural studies, and other fields. In the July 2011 issue of the *Connecticut Law Review*, Crenshaw (2011) explores the viral-like spread of CRT in many other fields. The work challenges scholars to consider the way race continues to matter even in a society that wants to identify itself as either "colorblind" or "postracial." In 1995, Ladson-Billings and William F. Tate introduced CRT into education research and theorizing. By analyzing education inequity through the lens of CRT, they argued that race still matters; that the United States is a nation built on property rights, not human rights; and that the intersection of race and property provides a powerful rubric for making sense of ongoing inequality in U.S. schools. Ladson-Billings and Tate used CRT to analyze school funding, assignment to special education, discipline practices, curriculum as a form of property, and testing and assessment.

Gloria Ladson-Billings

See also Affirmative Action; Equality of Educational Opportunity; Ethnicity and Race; Freire, Paulo: *Pedagogy of the Oppressed* and Critical Pedagogy; Legal Decisions Affecting Education; Racism and Multicultural Antiracist Education; Social Class

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Critical Theory

The term *critical theory* (CT) was coined by Max Horkheimer (1895–1973) in 1937 to describe a politically committed response—grounded in the German philosophical tradition of Immanuel Kant, Friedrich Hegel, and Karl Marx—to the problems of modernity and, in particular, to the catastrophic events and social changes of the first half of the 20th century. CT aims to achieve the emancipation and transformation of individuals and society through human action. Theory and practice form a single process, and philosophy is put to work to provide an analysis and critique of society, leading to social change. The political significance of the action of educating is brought to the fore, and education takes a central place as a means of promoting individual autonomy and addressing issues of prejudice and authoritarianism. CT also has relevance to the nature of education research as an interdisciplinary intellectual enterprise that seeks to negotiate the relationship of theoretical research with empirical methodologies.

CT has shifted through a number of distinguishable phases since 1923, when the first generation of Marxist social theorists formed the Institute for Social Research affiliated with Frankfurt University. The principal members of what came to be known much later as the Frankfurt school were Max Horkheimer, Theodor Adorno (1903–1969), and Herbert Marcuse (1898–1979). Many others were associated with the school, including the literary critic and philosopher Walter Benjamin (1892–1940), the psychologist Erich Fromm (1900–1980), and the sociologist Friedrich Pollock (1894–1970). Most prominent among the second-generation critical theorists is Jürgen Habermas (1929–), whose theory of communicative action attracts continuing interest in education theory seeking to understand the role of schools in developing democratic values and practice. *Critical pedagogy*, a term coined in 1983 by Henry Giroux (1943–), has its origins in CT and describes educational praxis (theoretically informed practice that has an emancipatory and egalitarian premise).

First Generation: The Frankfurt School

The Marxist orientation of the Frankfurt school theorists led them to expect the end of capitalism as its own internal logic unfolded. The Russian Revolution of 1917 had briefly seemed to confirm the correctness of this prediction, but by the time of the founding of the institute, Russia had undergone years of civil conflict, with ruinous consequences, and the violent suppression of German communists under the nonrevolutionary moderate socialism of the Weimar Republic confounded the revolutionary hopes of the political left there. Accepting neither Moscow nor Weimar, the institute returned to the philosophical roots of Marxian theory. The members of the school were deeply affected by the rise of Nazism and spent much of the next two decades in exile, mainly in the United States where they found sanctuary in American universities. Perhaps the greatest personal and intellectual tragedy for the school during this period was the death by suicide of Benjamin in France in 1940.

CT defines itself in terms of liberation from circumstances that enslave; the purpose of philosophy is to make a significant difference to human life, including its material conditions. This transformation is to be achieved through analysis and critique, which leads to a desire for change. However, what confidence the members of the school shared that human happiness and well-being might be increased was strictly circumscribed by what they believed to be ever-tightening limitations on autonomous activity. Constraints on human freedom that were formerly theological and feudal seemed increasingly to shape intellectual activity by way of certain insidious social changes. Immediate historical circumstances also shaped CT: As the Great Depression was followed by 16 years of increasing political and social chaos in Europe, feelings of absolute loss caused the members of the Frankfurt school to abandon, to a great extent, what had only ever been a cautious optimism about human happiness.

Against this background, nonetheless, the school never entirely lost its faith in the transformative power of education. In his lecture "Education after Auschwitz" (1966), Adorno argues that, in view of the monstrous events that took place, all education should have the end of fostering critical self-reflection and self-determination and of countering the barbarous and violent tendencies of authoritarianism and the exaggerated attachment to technological thinking and to collective identity. In "Taboos on the Teaching Vocation" (1969), he outlines how this ambition for education stands in sharp contrast to the way in which schools can represent an authoritarian, hierarchical, and frequently violent, prototype for fascism. Education for autonomy, Adorno

recognizes, is constantly at risk of misrepresentation and attack; children's capability for independent thinking may be damaged at a very early age, and yet democracy depends on it.

The radical student movement of the 1960s turned to the Frankfurt Institute for inspiration and support and pirated copies of the members' earlier works circulated widely. Marcuse willingly became the intellectual mentor of the student leaders with a number of articles that established his position as the voice of the new left; and Habermas, the relative newcomer to the institute, addressed student conferences and spoke to student leaders in Germany. However, with the exception of Marcuse, the relation of the members of the institute to the student activists was rather fraught and complex. Aspects of their writings resonated strongly with the students' revolutionary aspirations and mood, but in the end, the students wanted something that CT could not give them—an uncritical endorsement of their actions and ambitions. It is important to understand that, in spite of its Marxist origins and its emphasis on praxis, CT is not an ideology but an open-ended methodology in which the contradictions and omissions of a particular social world are explored from within to reveal other possibilities and new ways of being. This is *immanent criticism*, which can be understood in contradistinction to an ideological critique based on fixed and transcendent principles.

The activity of exposing the omissions and contradictions between the principles and practice of a given society has meant that CT is frequently described as negative. The refusal to propose an alternative way of organizing society should be understood not as a result of a sour negativity or quietistic abnegation but, rather, as the result of a steadfast commitment to human freedom. The abuse of ideologies during these decades adequately explains the critical theorists' cautious reticence about constructing the future; but it is also a result of a deeper understanding of the role of philosophy as interpretive and explanatory. Hegel's "Owl of Minerva," that spreads its wings at dusk, signifies the task of philosophy, which is the intellectual apprehension of mature reality—at the end of the day, as it were, rather than before it dawns. For the critical theorists, philosophy has a formative role in the maturation of reality, but it is, and should be, backward looking. An important strand of CT is the philosophy of history, particularly as it features in the work of Benjamin, who combined an account of childish and of historical consciousness to formulate a distinctive, somewhat idiosyncratic, theory of hope and historical redemption.

The idea that critique must be grounded in, or immanent in, a particular system or society raises the specter of relativism. The realization that societies are plural and complex means that appeal to the idea of community can result in an unnerving loss of certainty. Aversion to dogmatism and utopian theory seems to entail that we give up any objective or transcendent normative basis for critique, except for the rather second-rate version of normativity provided by each particular group or society. However, the caution exercised by the members of the Frankfurt school with regard to transcendent normativity—that is, to a standard for judgment that comes from a system or theory unrelated to the world as it is—not only reflects their historical context but also has its roots in the understanding they shared of the relation between the universal concept or theory and the particular circumstance or experience. Truth does not reside in one or the other but in the dynamic relation of the two. The imposition of the universal over the particular denies the reality of experience or forces that reality to conform to an idea; the assertion of the particular over the universal, on the other hand, results in chaotic activity without direction or purpose. CT gives priority or finality to neither theory nor lived experience. Truth is liable to change, but this does not mean that it is an illusion. This is a distinctly Hegelian insight that truth is transitory and incomplete, that each concept is "sublated" by a subsequent one. The result of this is caution and humility rather than relativism or the abnegation of responsibility for present suffering.

This appeal to public discourse as a source of normativity can be interpreted as falling squarely within the Enlightenment tradition wherein truth flows out of the rational activity of autonomous individuals who are given free voice and where their opinions are open to public critique. The idea that reason needs the checks and balances of public discussion to transcend the merely subjective is one way in which community may be understood as a source of normativity.

Interdisciplinary Method

The immanent criticism favored by the critical theorists, then, situates critique within life as it is—within the practices, traditions, values, and beliefs of a particular society; and though it is not constrained by these circumstances and can postulate

ways in which things could be otherwise, it holds to the principle that critique ought not to be detached. However, CT also steadfastly rejects positivism in social research, because of the way in which it misrepresents social phenomena as "givens," and sees theoretical research as pure, neutral, self-substantive, and ahistorical. Horkheimer describes this empirical bias as resulting in the *reification* of social facts, which is inherently conservative rather than transformative or revolutionary, and is the foundation of the view that the purpose of knowledge and inquiry is the domination of nature.

The tension between the empirical and theoretical approaches to social research became a very present reality to critical theorists working in the context of American universities, where social research was almost exclusively empirical and pragmatic. In addition to the desire to combine the two social research traditions on theoretical grounds, they faced a pressing practical necessity to work with their American colleagues. The most important piece of research to emerge from this exigency was *The Authoritarian Personality*, first published in 1950, an extensive study of prejudice that drew on psycho-scientific methodologies to refine and support the formulation of ethical and political commitments.

Second Generation: Habermas and Communicative Action

Habermas is recognized as one of the most important social theorists of the postwar era. His work is prolific and interdisciplinary and owes much to his early participation in the Frankfurt school, where he worked as research assistant to Adorno from 1956 (though the direct association was relatively short lived). Habermas has written little that is explicitly on the topic of education, but his ideas have been highly significant for educational discussions of democracy, participation, and citizenship and for the development of action research as an educational methodology.

Habermas's contention that knowledge is not neutral but socially constructed, and that what counts as worthwhile knowledge needs to be interrogated to discover the particular interests that are served by it—what he calls "knowledge-constitutive interests"—has been particularly influential in critical pedagogy and reflects the emancipatory commitments of CT. He takes a critical view of the hegemony of the empirical-scientific model of knowledge, for which he uses the term *cognitive-instrumental rationality*, and contrasts it with another aspect of reason, which he calls *communicative action/reason*, which is the mode that has often been used by people in everyday situations to reach understanding and agreement and to coordinate their actions. This idea of communicative reason is given full articulation in his 1981 work *The Theory of Communicative Action*. As with the approach of his CT predecessors, this was not an outright rejection of scientific methodology but a reconfiguration of it in the context of a broader, more comprehensive concept of reason. Habermas's argument is that the suppression of communicative reason in the modern era has allowed technocratic approaches to dominate all aspects of life without the rudder of political and ethical deliberation, resulting in the technologically enabled atrocities of the 20th century that have mortally wounded modern faith in progress.

Communicative action is the mode of the *public sphere*, a concept that Habermas derives from Hannah Arendt's *space of appearance*, and which he first develops in *The Structural Transformation of the Public Sphere*, published in 1962. The public sphere is envisioned as an inclusive space for rational-critical deliberation between free and equal individuals committed to reaching an agreement on matters of common concern and common good. Habermas traces the genesis of the public sphere to 18th-century Europe and the beginnings of Enlightenment thought and argues that in the rediscovery of the norms of the public sphere can be found a defense of modernity's "unfinished project" and a counter to the dystopian analysis of modernity found, for example, in Adorno and Horkheimer's *Dialectic of Enlightenment*, first published in 1944. In communicative action, in the structure of discourse itself, Habermas looked for the source of normativity that would give a positive impetus to critique. The evident fact that when we voluntarily enter into a discourse, we do so on the assumption that agreement is possible may be further interrogated to reveal the standards and rules inherent in communication itself.

Like John Dewey, Habermas focused on the essential importance of deliberative communication to healthy democracy. Democracy is not simply a matter of extending participation. The erosion of the function of the public sphere has come about in a number of ways, none of which necessarily entails reduced participation, for example, low levels of educational attainment, control of information by commercial interests, and the debasement

of public opinion to an aggregation of preferences. Communicative action requires freedom from all such constraints and coercion that would compel participants to reach a false consensus. It is how decisions are arrived at and opinions formed that determines the validity of democratic decision making. The idea of communicative reason has distinct implications for education since there is a need to develop in children the competencies that enable participation in a pluralist public sphere through a pedagogical emphasis on discussion, negotiation, and collaboration. What this might mean for the development of deliberative democracy in an educational context has been further explored by writers such as Seyla Benhabib, Iris Marion Young, and Amy Gutmann. One criticism of Habermas's theory of democratic deliberation hangs on the suggestion that he fails sufficiently to recognize that asymmetric power is inscribed in the situation itself. This is an important consideration for children's participation in discourse where it seems that it is sometimes thought that inequality can be "good-willed" away. Similarly, Habermas's apparent equation of discourse and argumentation might serve to exclude certain groups, notably young children, whose mode of communication is not rational-logical or even linguistic. The question generally remains as to how the gap between our ideal and actual situations may be bridged.

Action Research and Ideology Critique

Action research plays an important role in teacher education, but the term itself has a number of different meanings. In Habermasian thought, it relates to the notion of *ideology critique*, an element in Marxist social theory that has as its aim the exposure of injustice. In his 1972 work *Knowledge and Human Interests*, Habermas outlines a process of inquiry that entails the hermeneutic investigation of a situation, a critique of that interpretation to identify the blatant or covert knowledge-constitutive interests, followed by a decision about how the situation may be altered to achieve greater equality, and, finally, an evaluation of the effectiveness of the action taken. This four-stage process may readily be applied to critical interventions in pedagogical situations, which reflect the teacher's commitment to education on the basis of equality and universal entitlement. Other forms of action research may be concerned solely with improving the technical aspects of teaching without reference to ethical-political considerations, an interpretation that is at odds with the fundamental tenets of CT.

Conclusion

The continuing relevance of first-generation CT in educational theory and practice lies in the recovery of utopianism to drive and direct what educators do, without anticipating a particular future state. This is a difficult and delicate, intellectually open, middle way between the twin horns of the "efficiency agenda," which is shaped solely by a desire to measure and improve education as a process aimed at attaining a set of known goals (familiar to teachers in terms of talk of accountability and effectiveness), and the alternative, the imposition of an ideologically driven agenda for change. Such a conception of teaching as a politically significant, countercultural activity is consistent with constructivist theories of learning that give central importance to the fostering of critical self-reflection. Habermas's theory of communicative action focuses our attention on the way in which educational ends are determined, as well as on who participates in this discourse. His thinking also effectively mounts a direct challenge to the educational research community to engage in the immanent critique of its own privileges, knowledge-constitutive interests, and engagement with sociopolitical issues of pressing concern.

Sharon Jessop

See also Apple, Michael; Arendt, Hannah; Deliberative Democracy; Dewey, John; Marx, Karl

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Critical Thinking

The invention of critical thinking often is attributed to the early Greeks, especially to Socrates, some 2,500 years ago. Wherever it began, critical thinking properly is called an invention, as noted by the important 20th-century philosopher of science, Sir Karl Popper. Its emergence in the human species was not inevitable. It found a catalyst in the Socratic method, an approach to solving problems that relies on posing a series of questions the answers to which result in solutions to the problems. Thus, critical thinking can be thought of as an intellectual technology—an artifact designed to accomplish certain ends.

The critical examination of proposed solutions to problems often is hailed as the method of all rational discussion. The idea of criticism is not meant to be one of finding fault—in the sense intended, a person offering criticism might provide either a positive or a negative assessment. The key is that the criticism is accompanied by reasons, which point, in the case of negative criticism, to possible routes to improvement.

Critical thinking finds a natural home in education, because it has been equated to rationality. As such, critical thinking is central to education for several reasons. One reason related to the growth of knowledge, both in society and in individuals, is that critical thinking is the basis of the academic disciplines on which education places special emphasis. A moral reason for critical thinking is that dealing rationally with others—that is, dealing with them on the basis of reasons—is a key way of showing respect for those others, including students. When thought of in this manner, critical thinking must play a major role in formulating educational goals and in designing educational interventions.

This entry deals first with early and later formulations of the concept of critical thinking; second, with two major controversies that occupy much of the debate within the field, both dealing with different aspects of the generality of critical thinking; third, with the relationship between critical thinking and a cognate area of study, informal logic, that resides primarily within philosophy departments; and, finally, with attempts to reach consensus on the meaning of critical thinking.

Early Formulations

The earliest uses of the term *critical thinking* in the 20th century were outside of the context of elementary and secondary (K–12) education. Critical thinking was associated closely with logic and with postsecondary education, as one can find in the work of Max Black. With such affiliations to logic, the concept of critical thinking referred to generalized standards and principles of reasoning on which reasons for judgments could be based. According to this view, reasons require generalized standards and principles as their basis, else they cannot serve as reasons. Consider an example. A person wishes to defend the continued exploration and exploitation of hydrocarbon resources and offers as a reason that the economy would suffer otherwise. When asked about why the economy matters, the person might respond that a suffering economy would lead to greater unemployment and more widespread pain and deprivation and that human pain and deprivation are to be avoided. The latter claim, that human pain and deprivation are to be avoided, is an example of a generalized standard to which one can appeal in order to support a very wide variety of other claims, including the one here about hydrocarbons. Lacking an acceptable generalized claim such as this one, the claim about hydrocarbons would appear arbitrary and as serving a narrow interest.

Critical thinking was brought into the K–12 educational context in the late 1950s by B. Othanel Smith and in the early 1960s by a seminal article authored by Robert Ennis. The focus continued to be on correctly assessing statements, which was proposed as the central meaning of critical thinking. The attention to statement assessment kept critical thinking tied very much to truth seeking and to the formation of belief—not in the sense of faith or trust but in the sense of conviction based on reasons and evidence.

Later Formulations

Critical thinking attracted considerable academic attention in the final two decades of the 20th century. During this period of active philosophical debate, three notable advances were made in the conception of critical thinking that have become widely accepted by the most prominent theorists in

the field. The ideas marking these advances already were nascent in the earlier formulations, but it took concerted attention to the meaning of critical thinking to render them more clearly and to bring them to widespread attention.

The first advance was the growing recognition that critical thinking must be focused not only on what to believe but also on what to do. This shift in focus meant that critical thinking must be directed to finding both what is true and what is right. Critical thinking would remain thinking based on generalized principles and standards, but these principles and standards would have to be expanded to include ones applicable to the moral and ethical domain, the touchstone disciplines for the study of right action.

The second advance was the realization that critical thinking must be directed toward the self as much as it is toward others. That is, it is necessary for critical thinkers to be fair-minded by assessing what they have said and done in addition to what others have said and done. Yet more than this is required. In making assessments of what others have said and done, critical thinkers must turn their critical thinking on their own assessments to guard against biases and unjustified assumptions that may have skewed these. It is incumbent on the critical thinker to be self-aware and to attempt as much as possible to eliminate or compensate for threats to fairness in judgment.

The third advance was to stress that critical thinking arises from a certain sort of character. The implication of this thought is that it is not enough to teach students *how* to think critically and to expect them to be critical thinkers. In addition to the knowledge of principles and standards, and to the skills of credibility assessment, making inferences, and analyzing arguments, students need to acquire critical thinking dispositions (such as fair-mindedness mentioned above) and the disposition to think critically when it is appropriate to do so. The fostering of dispositions is quite a different matter from the teaching of knowledge and skills. A person might have all the knowledge and skills needed to be a critical thinker, yet he or she may choose not to think critically or choose not to do so as frequently as appropriate.

The upshot of these three advances is that by the turn of the 21st century, critical thinking was not simply another educational goal with academic consequences, such as educating for better-thinking scientists. Teaching critical thinking was seen as an effort to instill character. In the first instance, critical thinkers were to focus on making decisions that lead to right actions—that is, on actions that can be justified by sound moral and ethical reasoning. Second, critical thinkers must focus on their own thoughts and hold themselves to the same standards of critical thinking to which they hold others. Third, critical thinkers must be fair- and open-minded individuals who base their decisions about what to believe and do on reasoned reflection. So, in addition to a manner of thinking, critical thinking had been elevated to a moral stance that educational systems should adopt and to which teachers and students should be encouraged to aspire.

Subject Specificity

One of the most heated debates about critical thinking concerns its generality. The debate has been framed in at least three ways. First, there is the question of whether critical thinking taught in one domain of knowledge or subject area will transfer in use to other areas. The doubters have said that little transfer occurs and can be expected to occur, so there is little reason to attempt to teach critical thinking in general. Critical thinking should be taught in the context of each subject. Some, however, have argued that at least the most general logical principles transfer from one subject to another, and perhaps other principles transfer as well, such as those used to assess the credibility of sources or to discern the structure of an argument. Moreover, some involved in the debates have argued that critical thinking dispositions, such as open- and fair-mindedness and the disposition to think critically when appropriate, are fully transferable from one domain to another. Still another group maintains that considerable conceptual clarification about the distinction between domains and subject areas is needed before empirical research can yield any answers to the question of critical thinking generality understood in this sense. Where, for example, does biology end and chemistry begin? If you think there is a clear line between these subjects, then what is to be made of the subject of biochemistry? Yet, unless a clear line can be drawn, what sense can be made of the claim that critical thinking taught in the context of biology will not transfer to thinking critically in chemistry?

Second, there is the question of whether the principles and standards of critical thinking vary from subject to subject. There is a group of theorists who have argued that critical thinking simply is different in, for example, physics than it is in history. According to this group, there is nothing to transfer

from one subject to another—critical thinking must be taught in the context of each subject because it is manifested differently in each one. Critics of this view respond much as they do the first position. They maintain that the same general logical principles apply in history as they do in physics; that judging the credibility of a source of information relies on the same principles and standards in history as it does in physics; and that being open and fair minded are the same dispositions in each field. Finally, there are those who point out the vagueness in the distinction between subjects. If you wish to maintain that the principles and standards of critical thinking are different from subject to subject, what do you say about a subject like biomechanical engineering housed in a medical school? You need to be able to distinguish that subject from biology, from engineering, and from medicine.

Third, there is the claim made most prominent by John McPeck that because critical thinking is always thinking about something, there is no sense in talking of critical thinking in general. Because no sense can be made of critical thinking in general, critical thinking in general cannot be taught. This argument has been rejected widely because it fails to demonstrate a link between the two propositions. Several analogous cases have been proposed where the connection does not hold. For example, although bike riding is always riding some bike in particular, that does not mean there is no bike riding ability in general. The defender of the view needs to show that even though the connection does not hold in the bike-riding example, it still does hold in the critical thinking example because the examples are not analogous. No defender has successfully made this case.

Critical and Creative Thinking

Another challenge to the generality of critical thinking is that it leaves out an important form of thought—creative thinking. Theorists of creative thinking have tended to reject this characterization. On the one hand, it is a documented fact that inventions, scientific discoveries, and artistic performances—all undeniably creative achievements—require the exercise of critical judgment in their execution. On the other hand, critical thinking typically requires imagining alternatives and likely outcomes and devising approaches to problems—once more, all undeniably creative achievements. Thus, it is broadly recognized that critical thinking plays an essential role in creative thinking and that creativity is at the heart of thinking critically.

Critical Thinking and Informal Logic

There are two other fields of study, informal logic and argumentation, that are aligned closely with the study of critical thinking. The second of these is associated primarily with the field of linguistics and will not be discussed further in this entry. The first, informal logic, finds its home in philosophy departments and has fostered a link with philosophers of education. Informal logic began in part as an alternative to formal logic, which of course is an important part of the philosophy curriculum in colleges and universities. The issue was that formal logic does not help an individual deal with everyday problems, framed in everyday language, that nevertheless require systematic thought—or at least, formal logic does not provide such help clearly or directly. Informal logic grew as an attempt to provide such systematization. The primary focus of informal logic is on arguments (i.e., lines of reasoning offered to support conclusions)—how to analyze their structure, how to identify implicit statements in them, how to assess them, and how to counter them. As such, informal logic is closely related to critical thinking, but it differs in having a narrower focus. Nevertheless, the areas of study are closely allied.

A Consensus Meaning

It is sensible to ask whether consensus exists on the meaning of critical thinking. About two decades ago, the American Philosophical Association sponsored a study that attempted to answer this question. The research employed a Delphi method, which involved a panel of experts participating in several rounds of discussion aimed at achieving consensus on answers to a series of questions. (The consensus was understood as a majority judgment, not a unanimous one.) The characterization of critical thinking as consisting in skills and dispositions was supported by the report. Although not explicit on the question of the generality of critical thinking, the entire tone and mode of expression of the report implied clearly that critical thinking was thought to be generalizable to all or most subjects and problems requiring good thinking. Close affinity with creative thinking was acknowledged but not explored beyond that. Long lists of critical thinking skills and subskills and dispositions were provided, and consensus was claimed

about these. However, given the research method employed and the argumentative nature of the field, it is perhaps wise to place less trust in the claimed consensus on the specifics than on generalities such as the two named earlier in this paragraph.

Stephen P. Norris

See also Education, Concept of; Epistemology, Multicultural; Knowledge, Analysis of; Popper, Karl; Rationality and Its Cultivation; Socrates and Socratic Dialogue

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Cultural Literacy and Core Knowledge/Skills

Cultural literacy is shorthand for a defined body of shared knowledge, skills, and sensibilities that reflect the values, attitudes, and tastes of a dominant culture. Proponents of cultural literacy argue that if all members of a community can activate a common reference system, they will be able to communicate more successfully with one another, be more effective political participants, prevent grievous repetitions of history, avoid reinventing the wheel, and foster humanistic ideals through exposure to the best, most beautiful, and intelligent works of mankind. Altogether, cultural literacy is seen as laying the essential groundwork for advanced education and critical thinking. This conception of the humanistic and cultural benefits of general education is a legacy of the 19th-century British poet and thinker Matthew Arnold. This entry discusses the potential benefits of cultural literacy, concerns about what facts and ideas are emphasized, and the controversy over the common core movement in the United States.

The debate over cultural literacy was a touchstone of the culture wars that took place during the 1980s and 1990s, and this entry will outline the major positions advanced on both sides of the issue. The publication of E. D. Hirsch's book *Cultural Literacy* in 1987, followed one year later by his *Dictionary of Cultural Literacy*, ignited a furious controversy over the benefits and demerits of holding all students to a prescribed canon of knowledge and making them study approved sets of great works. A large number of detractors of cultural literacy, mostly from academia, questioned the usefulness and legitimacy of this approach and condemned the motives and effects of the method. They advocated instead a more contingent, flexible, skills-oriented, and child-centered curriculum.

Those who oppose the idea of cultural literacy object to the kinds of value judgments that proponents of cultural literacy habitually make: Galileo Galilei and Virginia Woolf are more important than Giambattista Vico and Violet Hunt. The gulag is more important than the Battle of Alcatraz. Heisenberg's uncertainty principle is more important than the Heisman Trophy. As with any list, cultural-literacy primers are open to attack on matters of inclusion and exclusion. But supporters of cultural literacy insist that to aspire to the highest standards of excellence, value judgments are ultimately inevitable, even if they are unpopular in certain quarters and are labeled elitist or ethnocentric. At the same time, advocates of cultural literacy such as Diane Ravitch and William Bennett acknowledge that setting precedents of importance and canons of excellence does not mean avoiding metacritical debates over the rationale involved in making these judgments. Nor does it mean that the cultural productions of "lesser" or nondominant cultural formations do not deserve close study and sustained attention if they are deemed important in their own right. It does mean, however, that cultural

literacy fosters loyalty to a cultural formation deemed dominant.

Attacks against cultural literacy that characterize it as popularizing an ossified curriculum can be blunted by reference to the history of American general education. What is considered essential "core" knowledge has changed over time—from the study of classical languages and rhetoric in colonial times, to the Great Books approach of the mid-20th century, to the emphasis on information literacy today. One thing has remained despite all of these changes: Cultural literacy places a premium on memory. It is deemed essential that certain facts of history (including the history of art, literature, and ideas) are kept alive from generation to generation to generate a sense of continuity and to foster an expanding store of cumulative knowledge. Ravitch argues that this knowledge base, far from inhibiting critical thinking is, in fact, its crucial precondition.

Critics of the idea of cultural literacy, including Stanley Aronowitz, Henry Giroux, and Peter McLaren, have argued that it is an exclusionary, ethnocentric, and reactionary strategy aimed at maintaining the socioeconomic status quo. Not only were defenders of cultural literacy seen as old-fashioned information mongers, but they were also condemned as elitist gatekeepers of privilege, creating an atmosphere of stifling conformity. The go-to authority of such views was the Brazilian education theorist Paulo Freire, whose 1970 essay on the "banking concept of education" (first published in *Pedagogy of the Oppressed*, 1970) associated the idea of inculcating a shared body of common knowledge with the dehumanization of learners, who are transformed into passive receptacles of data. Against this banking concept, Freire proposed a problem-solving type of learning that is attuned to local knowledge, involves dialogue between teacher and student, and aims at change rather than stasis.

By contrast, American proponents of cultural literacy maintain that a common core of knowledge and skills, including knowledge of the Bible, world literature, world history, politics, geography, economics, technology, math, and Standard English, is the currency needed to participate in the marketplace of ideas. According to this line of argument, the conversations conducted by those in power have been shaped by (mostly private) elite schooling, which puts a strong emphasis on core learning. Elite preparatory schools such as Phillips Academy in Andover, Massachusetts; Roxbury Latin School, also in Massachusetts; and the Lawrenceville School in New Jersey provide the bases of a liberal arts education encapsulated in phrases such as "solid grounding in the fundamentals," "core curriculum," or even "Homer and Virgil." The types of conversations that the graduates of these elite schools initiate on college campuses, in board rooms, at political meetings, or during cocktail parties cannot be joined by those who lack a sufficiently sophisticated reference system, thus relegating them to the margins.

The college classroom is a particularly instructive laboratory for testing the viability of cultural literacy. Those who cannot spell properly, who write (and speak) nonstandard English, whose vocabulary is limited, whose historical knowledge is sketchy, whose sense of geography is skewed, and whose literary and artistic reference system is thin are often unable to join the conversations held in college classrooms and tend to drop out in frustration. Or they may not gain admission to their dream college in the first place. As the growing socioeconomic imbalance at elite colleges shows, applicants from schools that promote solid core knowledge outperform those from institutions with less emphasis on rigorous core curricula. Of course, factors other than school curricula also affect educational outcomes and admission to elite colleges, as children from prosperous households enjoy a plethora of advantages over their less privileged peers, ranging from a menu of enrichment activities to often more stable family structures. Still, cultural literacy can be viewed as a way to even the playing field rather than as an insurmountable obstacle for those hailing from less affluent environments.

Opposition to cultural literacy is energized by what some see as the specter of a national curriculum. In the United States, Congress has instituted considerable barriers to implementing a national curriculum. Even the "Common Core Standards," adopted by President Obama's Department of Education, have been attacked as possibly unconstitutional. Although these Common Core Standards are de facto voluntary, because states can opt to implement them, the fact that such adoption is linked with funds via the "Race to the Top" (a policy created by the U.S. Department of Education to spur innovation and reforms in state and local district K–12 education) makes them vulnerable to the charge of introducing a national curriculum through the back door. At the time of this writing, 46 states and the District of Columbia have effectively adopted the Common Core Standards developed by the National Governors Association

Center for Best Practices in collaboration with the Council of Chief State School Officers. In substance, these standards outline the foundational skills and appropriate levels of analytical rigor with which subjects in mathematics and English-language arts are to be taught at any given age. Whatever lists of texts are provided should not be deemed prescriptive but merely illustrative of the complexity, quality, and range of materials that should be taught. The suggested literary texts reflect significant racial, ethnic, national, gender, class, and age diversity, thus alleviating concerns about modeling a restrictive and lopsided canon. In all, the Common Core Standards prioritize a skill-based vision over a content-based vision of cultural literacy, and they are thus miles apart from the more prescriptive vision of cultural literacy advanced by Hirsch.

While the test-based approach of the No Child Left Behind law has been almost universally acknowledged as a fiasco, critics who aver that the Common Core Standards will further entrench mediocrity are making speculative judgments. Most European education systems are based on a national curriculum, although differences between individual nations exist. These national curricula lay out in more or less detail a common core of subjects and skills that should be covered in all schools. Critics of the American Common Core Standards movement would need to answer why a national curriculum is undesirable if nations like the Netherlands, Finland, and South Korea—which do feature a national curriculum—produce students who habitually outperform their American counterparts in reading, math, and science literacy (Organisation for Economic Co-operation and Development, 2009).

Opponents of cultural literacy often invoke the "lists" of cultural-literacy proponents as the principal damning evidence to disqualify the whole project. They reasonably contend that lists are not equivalent to learning. But the initiator of the cultural-literacy debate, Hirsch, himself, emphasizes that the lists of learning objectives specify merely desired (or prescribed) outcomes regardless of the specific pedagogic techniques used to reach these objectives; they are not formulas to be memorized for their own sake. Hirsch distinguishes between an extensive and an intensive curriculum. While the extensive curriculum leans more heavily on factual learning and list-driven learning, the intensive curriculum leaves much room for flexible approaches. With this two-pronged approach, Hirsch is aiming to balance compulsory broad coverage with optional in-depth learning that allows for individual and local choice. Again, such an approach almost exactly mirrors the academic philosophy of the elite private schools in the United States.

Even those who are in favor of strengthening the teaching of cultural literacy are not claiming that it is the alpha and omega of education. Rather, they see it as the building of a solid, versatile foundation. Real in-depth learning, critical thinking, and problem solving can only be established on the basis of this quintessential body of information and skills. In this sense, cultural literacy is not an end in itself but a sophisticated tool set.

Bernard Schweizer

See also Achievement Gap; Curriculum, Construction and Evaluation of; Essentialism, Perennialism, and the "Isms" Approach; International Student Assessment (PISA); Literacy and the New Literacy Studies; Multiculturalism

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Curriculum, Construction and Evaluation of

While education can take place without teachers, administrators, or school buildings, a curriculum is required in any educational scheme, for a curriculum is a plan of action that sets out learning activities about some subject. Since instructional time is limited, decisions must be made whether to include topic *x* or topic *y*; curriculum constructors make these decisions, explicitly or tacitly, based on educational purposes that act as filters to determine what to include. Curriculum construction also involves questions about how to design or organize the content of the curriculum since everything cannot be taught at once. How questions of purpose and design, which are interrelated, are answered is consequential since these two factors direct teaching and learning in some ways rather than others. Curriculum evaluation is the process of gathering and using information about a curriculum, usually to improve it or judge its effectiveness. This entry discusses the way in which decisions are made about curriculum construction, changes in the approach to curriculum construction since the late 1800s, and different approaches to curriculum evaluation.

The Scale and Timing of Curriculum Construction

Curriculum construction normally occurs as a result of a policy decision. These types of policies are broad statements about the subject with which a curriculum will deal and the purposes it is intended to accomplish. Policy decisions are made by authorities at a variety of levels, including national and international as well as regional and community levels. Policy sets boundaries within which curricula are constructed.

Curriculum constructors interpret policy and develop specific plans and materials for students and teachers to use. These plans and materials can range from skeletal outlines of content to instructional scripts. A curriculum may be generic or made for a more restricted population. A generic construction is intended for any student or teacher of a given description, and it is typically constructed at a distance from where it will be used. Examples include state- or provincial-level curricula and curriculum packages intended for dissemination across large areas. Local curriculum construction is more likely to be targeted to the identified needs of a specific population of students and teachers. Local construction more likely involves the cooperation of potential users of the curriculum than does generic construction.

Generally, curriculum construction is regarded as an activity occurring in advance that formulates activities and identifies materials used in instruction. As Philip Jackson observed, there is a significant distinction between this "pre-active" sense of curriculum and "interactive" curriculum, which is an outcome of the interactions among instructional materials, teachers, and students. In an interactive sense, curriculum is at least partially constructed in use. This could manifest itself in a number of ways. John Dewey (1998) noted two of them. First, the effects of "collateral learning" from classroom routines may inculcate enduring habits and attitudes that are just as important as the formally stated objectives of a lesson. Second, he endorsed the participation of the student in forming the purposes of what is studied. Twentieth-century examples of interactive curriculum include the project method developed by William Heard Kilpatrick in the United States and open classrooms in the Plowden-oriented primary schools of England—primary schools of England influenced by a 1967 parliamentary report, headed by Lady Bridget Plowden, that promoted student-centered learning.

Approaches to Curriculum Construction

As Herbert Kliebard (2002) has documented, the modern sense of curriculum as an objectives-driven planned sequence of learning activities only emerged in the United States toward the close of the 19th century. In the 1890s, the first national committees were formed to determine what should be taught in the burgeoning public schools. Although these committees broke new ground, they conformed to tradition by retaining school subjects as the building blocks of the curriculum—although, to be sure, the "modern" subjects were not necessarily the same subjects or in the same form as those in the classical curriculum.

This conception of the curriculum reflected the significant role played by subject specialists from colleges and universities in the committees. Much of the resultant curricula mimicked the subject organization of the college curriculum. Although sometimes challenged as a curricular form of organization, its champions, such as Mortimer Adler, have argued for subjects as the basis for curriculum construction down to the present day.

By the early 20th century, however, the hold of college- and university-based subject specialists in curriculum policy and construction was challenged. More heterogeneous groups claimed a voice in curriculum, as did the first self-styled curriculum specialists. A prominent example of the former is the National Education Association, which convened a commission on secondary education, producing a report, *Cardinal Principles of Secondary Education*. The commission began its deliberations by considering the aims of secondary education in a democratic society, which did not necessarily devalue the role of school subjects but nor did it automatically afford them a pride of place.

Progressive scholars and professionals in the United States during the early 20th century placed great faith in science and efficiency. Thus, it is scarcely surprising that this faith found its way into the thinking of the newly minted profession of curriculum specialist. Perhaps more remarkable is the extent to which the assumptions of the so-called scientific curriculum construction have remained widely accepted into the 21st century. One of the major branches of scientific curriculum making found inspiration in studies of efficiency conducted in industry. Leading proponents of this view—the view that curriculum should be based on efficiency—such as Franklin Bobbitt and W. W. Charters, did not question that schools existed to serve the purposes of the existing social order; later in the century, neo-Marxist social critics and others, such as Michael Apple, were to go somewhat further and claim that school curricula served the purposes of the ruling class in a society. Bobbitt, however, argued conservatively that curriculum construction should begin with activity analysis. That is, curriculum makers should survey the activities—both occupational and leisure oriented—that children would have to perform as adults. This would provide a supposedly impartial scientific basis, since the social needs and activities were "discovered" rather than being the mere preferences of some authority for constructing objectives and learning activities. In this approach, traditional academic subjects were valued only insofar as they contributed to the demands of future living. Although sharing the faith in science of the times, Dewey held a different conception of science. He strongly argued that Bobbitt's emphasis on preparing for the future was misplaced. Dewey insisted that the only way a curriculum could prepare students for the unknown future was by fully engaging them in the demands of present living.

Not all scientific curriculum constructors had the intrinsically conservative purposes of the Bobbitt-Charters approach. For example, Harold O. Rugg marched with the times in his embrace of scientific curriculum making, but he saw curricula as being devoted to the cause of social reconstruction rather than social adaptation. Rugg constructed curricula focused on identifying and finding solutions to problems of society.

Perhaps the most famous approach to curriculum construction was presented by Ralph W. Tyler in 1949. It became known as the "Tyler rationale." In earlier years, Tyler had worked as an evaluator of a variety of curricula. This possibly accounts for his conceiving the curriculum constructor's task as more about identifying the questions *any* curriculum constructor must answer than providing his own answers to those questions. Tyler's starting point was identifying objectives. Rather than creating the objectives, Tyler said they could be obtained from sources such as the nature of the learners, the demands of life outside of school, and subject specialists. This was supposed to avoid the danger of curriculum constructors imposing their own values through determining objectives. Critics such as Kliebard note, however, that specifying which sources should be looked to as a source of objectives was itself an imposition of values. Moreover, Tyler's scheme bears more than a passing resemblance to Bobbitt's "discovering" educational needs.

One of the major conclusions of research since the 1960s is that the implementation of a curriculum, which is not always considered a part of "construction," may be as important in determining what actually is enacted in classrooms as the materials developed in advance.

Curriculum Evaluation

Authorities and other stakeholders often want information about a curriculum: What happens to this plan of action, and what effects does it have? Often student performance is taken to be the main, even

sole, index of a curriculum's effectiveness. As Elliot Eisner (2002) points out, this approach omits other potentially significant factors that may affect how the program turns out, such as the quality of its design, the clarity of its objectives, and its suitability for a given audience. Below are some of the major issues in curriculum evaluation.

In 1967, Michael Scriven famously suggested that one way of thinking about methods of evaluation is to distinguish between "formative" and "summative" modes. That is, formative evaluation is intended to provide feedback to a program (either while it is under development or when it is complete); the purpose is to provide guidance about making improvements. Summative evaluation, on the other hand, is intended to provide an overall assessment of the program (possibly because a decision is imminent about whether to continue using the curriculum or adopt a new one). A chef tasting a dish while cooking it is doing a formative evaluation; a restaurant critic sampling it is doing a summative evaluation.

Evaluators sometimes disagree on what yardstick to use to judge the effectiveness of a program. Often a program's performance is compared with its previously determined goals. One problem with this approach is that curricula, for reasons already touched on, change during their enactment, possibly creating potential for outcomes not envisaged by the setters of the original goals. With this in mind, Scriven argued that evaluators should be most concerned with the effects of a program rather than being preoccupied with whether it met its initial goals.

Evaluation would also seem to invite comparisons among programs, seeking the most effective of them. This is a sensible-sounding aspiration. But it turns out to be difficult to accomplish. As Lee Cronbach (1963) pointed out, the variation within one group studying the same curriculum is frequently greater than effects attributable to one curriculum versus another.

Stephen J. Thornton

See also Apple, Michael; Cardinal Principles of Secondary Education; Dewey, John; Hidden Curriculum; Project Method

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D

Dalton Plan

The American teacher Helen Parkhurst (1886–1973) developed, at the beginning of the 20th century, the Dalton Plan to reform the then current pedagogics and the then usual manner of classroom management. She wanted to do away with teacher-centered lockstep teaching. The Dalton Plan was based on the idea that students learn best by organizing their schoolwork themselves and freely cooperating with their teacher and fellow students. This entry discusses how Parkhurst developed the Dalton Plan, the principles of the plan, and the growth of Dalton education.

During her first experiment, which she implemented in a small elementary school as a young teacher in 1904, she noticed that when students are given freedom for self-direction and self-pacing and to help one another, their motivation increases considerably and they learn more. In a later experiment in 1911 and 1912, Parkhurst reorganized the education in a large school for 9- to 14-year-olds. Instead of each grade, each subject was appointed its own teacher and allotted its own classroom. The subject teachers made assignments: They converted the subject matter for each grade into learning assignments. In this way, learning became the students' own work; they could carry out their work independently, work at their own pace, and plan their work themselves. The classrooms were turned into laboratories, furnished and equipped as work spaces, and tailored to meet the requirements of specific subjects—a place where students work. Useful and attractive learning materials, instruments, and reference books were put within the students' reach. The benches were replaced by large tables to facilitate cooperation and group instruction. This second experiment formed the basis for the next experiments, at the Dalton School and other schools in New York, from 1919 onward. The only addition was the use of graphs and charts enabling students to keep track of their own progress in each subject. From that time on, it was called the Dalton Plan.

In 1921 and 1922, Parkhurst explained the theory of the Dalton Plan in a series of articles published in the *Times (London) Educational Supplement* and in her book *Education on the Dalton Plan.* It can be reconstructed as follows. According to Parkhurst (1922), the Dalton Plan is an "efficiency measure": "a simple and economic reorganization of the school" (p. 46). Lockstep teaching is not efficient, because it is the teacher who does all the work. The Dalton Plan "creates conditions which enable . . . the learner to learn" (p. 34). Learning is the same as experience: "Experience is the best and indeed the only real teacher" (p. 152). The school has to provide for sufficient experience. This cannot be achieved by keeping students as passive recipients, separating them from one another, holding them in one place, requiring them to remain silent, making them learn lessons by heart, and subjecting them to whole-class recitation. We can provide for experience through the "liberation of the pupil" and the "socialization of the school" (p. 46).

In the Dalton Plan, freedom is the opportunity to do the schoolwork oneself, to organize it oneself (how, where, and when), and to carry it out at one's

own pace, particularly to do it undisturbed and to work with commitment and concentration. Self-activity brings about experience. Something similar applies in the Dalton Plan to interaction and cooperation. When students are permitted to interact and work freely with one another and with teachers, in varying groups, in varied locations, with varied resources and materials, they come into contact with one another, the teachers, the subject matter, and the learning materials in different ways. This means more experience and, consequently, more learning.

In the 1920s and 1930s, Dalton education spread throughout the world. It is difficult to determine the exact number of Dalton schools, but there was Dalton education in America, Australia, England, Germany, the Netherlands, the Soviet Union, India, China, and Japan. Particularly in the Netherlands, China, and Japan, Dalton education has remained in existence. In recent years, there has been a revival of international interest. It crops up again, for instance, in England, Germany, the Czech Republic, and Slovakia. The Netherlands is the country with the highest density of Dalton schools. As of 2013, there were 400 Dalton schools in the Netherlands, most of them elementary schools. Making up 5% of all elementary schools, Dalton education is by far the largest educational reform movement in the Netherlands. And, contrary to Montessori, Jena Plan, and Waldorf education, it is steadily on the increase. The only Dalton school in the United States is the school that Helen Parkhurst herself founded in 1919, and was subsequently to direct for more than 20 years: the Dalton School in New York. It is a renowned school. But today, its fame is not due to its origins as an experiment in progressive education: The Dalton School is one of the most expensive private schools in New York.

Piet van der Ploeg

See also Communities of Learners; Dewey, John; Learning, Theories of; Progressive Education and Its Critics

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Daoism

Daoism (Taoism) is an ancient philosophy with origins in texts written in China more than 2,500 years ago. For perhaps just as many years, Daoism has also been practiced as a nontheistic religion, at times in secret when other philosophical/religious groups were in political and cultural favor. The key Daoist writings are characterized by many paradoxes, poetic language, and contradictory messages. Some writings ask many questions but do not provide answers, or they may answer with another question, which can be confusing to readers used to straightforward prose. In spite of its perplexing qualities, Daoism has been advocated and popularized throughout the millennia as holding truths about the pathway (*dao*) to take in life as well as the way (*dao*) to do things. Thousands of volumes have been published about Daoism, including several hundred translations into dozens of languages and interpretations by scholars and historians over two millennia. Along with the Bible, the ancient *Daodejing* (Tao Te Ching) is one of the most published books on earth.

Daoism does not hold a reputation for being an "educational" philosophy; it does not advocate formal education. Indeed, its writings have even aimed criticisms and poked fun at Confucianism, one of the most influential and powerful educational philosophies in China. However, Daoist precepts do advocate seeking wisdom in natural, informal ways. Also, given that the educational decisions of teachers and students are influenced by their personal belief systems, Daoist values have been a

potential influence on goals, curricula, instructional techniques, and student expectations.

Foundational Texts of Classical, Philosophical Daoism

As with many other major philosophical and religious traditions in the world, Daoism has grown from its beginnings in storied places with legendary scholars who were believed to have produced seminal writings. However, as the philosophy spread to other cultures and times, the original texts were altered and embellished with new interpretations and applications. Variant spellings of names arose, and religious practices that embraced the local customs of adoptive groups emerged. Discoveries of historians, archaeologists, and anthropologists came to support the notion that writings regarded as those of single individuals were actually the work of multiple authors.

The *Daodejing* and the *Zhuangzi* (Chuang Tzu) are referred to over and over as the most important sourcebooks for Daoist thought. At the end of the 6th century BCE, these volumes were said to have been created by individuals named Laozi (Lao Tzu) and Chuang Tzu (Zhuangzi).

Laozi, known as "The Old Master," was a sage during the late Zhou (Chou) Dynasty. He decided to leave his position as archivist in the court, disgusted with the corruption of the princes, the unrest of the warring states, and the general discord in society. According to tradition, the gatekeeper begged him to write down his thoughts before he traveled into the wilderness, so before he left, riding on the back of a water buffalo, he jotted down 81 short chapters of the volume we know as the *Daodejing*. On interpretation, its poetic sayings and proverbs offered wise insights and practical precepts. Some ideas are repeated many times throughout the chapters, with layers of meaning added by the varied contexts. For example, the importance of putting yourself low is presented as the valley spirit, the female, the root of heaven and earth, the follower, the one below, and employers who serve their workers. Being flexible is presented in imagery of water, with qualities of being both yielding and strong, but it is also shown as bamboo, able to bend but extremely strong, and as the precept that yielding is better than coerciveness in leadership. A reader of Laozi's writings comes away seeing the importance of practicing stillness and peace, simplicity, constancy, naturalness, taking the middle road, and being calm, as well as avoiding tendencies such as pride, extravagance, desire, striving, and "overdoing."

The volume titled *Zhuangzi* was created at about the same time as the *Daodejing*, but it came from a different region within China. Its stories share encounters and dialogues between fictional characters, both humans and animals, along with parables and admonitions, all organized and synthesized over time from dozens of chapters into the current seven divisions. Ultimate meanings highlight principles such as equality (of individuals), relativity (i.e., the value of any event varies with its context), freedom (from worldly things, from conventions), knowledge (the importance of great experiences), humanity (the importance of interactions, communication), and virtue (character development).

In the years before 1000 BCE, other writings were known to promote philosophical insights that were later emphasized in both the *Daodejing* and the *Zhuangzi*. One particularly influential text was the *Yijing* (I Ching), also known as the *Book of Changes*. It was known for its early presentation of the concept of *yin* (the receptive principle) and *yang* (the creative principle) as opposites that interact in dynamic ways to promote change. *Yin/yang* dualities are part of the dynamic balance within nature, such as hot/cold, male/female, mountains/valleys, or day/night.

Daoist Concepts

Many precepts associated with Daoism overlap with one another, while others may seem to be at odds with one another and are elusive to logical explanation. Beyond the important concept of *yin* and *yang*, some other ideas significant to Daoism include the following:

De (te) is the term that accompanies *Dao* in the title *Daodejing*, which can be translated as *The Way and Its Power*. It represents the vitality of an individual who gains harmony with the rhythms of nature. Fulfillment comes through inner strength, not through trappings such as the acquisition of riches.

Wuwei (wu-wei) indicates the action of practicing nonaction. Although it is quite a paradox, it can be thought of as doing things as part of the ebb and flow of nature (as in going with the flow). *Wuwei* means being spontaneous and comfortable with life and not indulging in competitiveness and aggression.

Pu (p'u) refers to the state of untouched simplicity that would characterize an uncarved block of wood before it is altered. It indicates the ability to

experience life in natural and spontaneous ways before being affected by the prejudices and dualistic, right/wrong thinking of living in the world.

The *three jewels of the Tao* are compassion, moderation, and humility. These three attributes characterize someone in the *Dao*. Showing love for others, avoiding doing things to excess, and not bragging are advocated attributes.

Applied and Religious Daoism

Early on, perhaps in the 3rd century BCE, the influences of early Daoist thought spread through multiple texts and the impulses of growing numbers of people to create a philosophy of life. The focus on health, personal spirituality, longevity, and immortality meant that people turned to breathing exercises, meditation, retreats into nature, herbal remedies and recommendations for physical development through yoga, *taiji* (t'ai chi), and intricate sexual practices. Religious Daoism also came to include ceremonies, priests, alchemy, evocation of spirits, and fortune-telling. Although many, including Westerners, thought of Daoist religious practices as divergent from the original philosophical vein, others involved in philosophical analysis during the late 20th century tended to see the holistic thinking and body involvement as important and worth examining.

Comparisons of Daoism With Other Philosophies

Daoist philosophy has long been revered, right along with Confucianism and Chan (Zen) Buddhism, as a mainstay of Chinese philosophy. Indeed, individuals throughout China easily hold all three philosophies within their personal belief systems. The views of each frequently conflict with one another, but there are also many overlapping, supportive elements. Citizens of modern China also include practitioners of Christianity or Islam.

To compare and contrast all the philosophies is beyond the scope of this entry, but a look at Daoism in contrast to Confucianism would certainly serve as a way to further define Daoist belief. The descriptors below recur in the literature:

Daoism	*Confucianism*
Individuality	Group goals
Harmony with nature	Planning, structure
Assistance, mentorship	Directed instruction
Peacefulness, tranquility	Social activism
Relativism (depends on viewpoint)	Black or white
Flexibility, tolerance	Single path, rules
Intuition	Logic
Political equality	Political hierarchies
Pluralism	Oneness
Skepticism	Solid belief
Acceptance, stoicism	Assertion
Wisdom of following	Aggressive leadership
Female emphasis, equality	Male dominance
Harmony of all living things	Human superiority

In analyzing the attributes of modern classrooms and education movements during the past century, recent scholars have drawn convincing parallels between Daoism and the qualities of progressive, holistic, and constructivist education. Modern observers of school practices know that teachers and school programs often attempt to help students find inner calm, peaceful attitudes, and personal fitness in a world beset with stressful political events and natural disasters and times of escalating social and technological change. However, it is very Daoist *not* to label these approaches as Daoist, for the first passage in the *Daodejing* reminds us that the way is nameless. Individuals may indeed adopt multiple philosophies. What will be will be.

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See also Confucius; Mencius; Religious Education and Spirituality

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Deconstruction

The word *deconstruction*, which was introduced into philosophical discussion by the Algerian-born philosopher Jacques Derrida (1930–2004), is today often used as shorthand for the critical reading of texts and the critical analysis of philosophical ideas and arguments. While much of Derrida's work does indeed contain critical readings of the work of other philosophers, and of philosophical concepts and ideas more generally, and while such readings do focus on underlying assumptions, including metaphysical assumptions, the word *deconstruction* actually has a much more precise and much more original meaning in Derrida's work. The aim of this entry is to clarify what the idea of deconstruction is "about" and to show how, through this, Derrida has made a highly original contribution to the philosophical discussion, one with important implications for education.

The Metaphysics of Presence

A major argument in Derrida's work has to do with his observation that the history of Western philosophy can be read as an ongoing attempt to identify a foundation that serves both as an absolute beginning and as a center from which everything emanating from it can be mastered and controlled. Derrida has argued that ever since Plato such an origin has been defined in terms of *presence*, that is, as an origin that is fully self-sufficient and fully present to itself. Here, we should not only think of such apparent foundations as "God" or "nature" but also of such phenomena as "consciousness," "the brain," "interaction," or "communication." Any attempt to present something as original, fundamental, and self-sufficient is a case of what Derrida refers to as the *metaphysics of presence*. According to Derrida, the metaphysics of presence not only is about the identification of something as original and self-sufficient but also entails a hierarchy in which what is seen as original and fundamental is depicted as pure, simple, normal, standard, and self-sufficient, so that everything that emanates from it can only be understood in terms of derivation, complication, deterioration, accident, and so on.

Metaphysics-in-Deconstruction

Why might the metaphysics of presence be a problem? One answer Derrida has given is that for something to be present, it actually always requires the "help" of something that is *not* present, that is, of something that is *absent*. *Good*, for example, only has meaning because it is different from *evil*. One may wish to argue that good is originary—that is, primary and fundamental—and that evil is secondary and therefore has to be understood as a lapse or a fall from goodness. But as soon as we try to define good without any recourse to the idea of evil, it becomes clear that the presence of good is actually only possible—that good can only be present—because of its relationship to what it is not, that is, its relationship to evil. We could say, therefore, that the idea of good is contaminated by the idea of evil. But this contamination is not accidental but is actually essential for "good" to have any meaning at all. This shows, however, that the very "thing" that makes good possible at the same time undermines it and makes it impossible. In more philosophical terms, we could say—and this is indeed how Derrida has formulated it—that the condition of possibility of presence is at the same time its condition of *im*possibility. And it is this strange "logic" where the condition of possibility of something is at the very same time its condition of *im*possibility that Derrida refers to with the word *deconstruction*.

Looking at it this way shows that deconstruction is not something that Derrida does or that other philosophers can do after him. It is, in other words, not some kind of method that can be applied. Deconstruction is rather something that *occurs*. While it is not up to us to let deconstruction happen or prevent it from happening, what we can do—and this is something Derrida has done many times in his own work, for example, in relation to notions such as "writing," "democracy," "friendship," and the "gift"—is to reveal the occurrence of deconstruction or, to be more precise, to reveal the occurrence of *metaphysics-in-deconstruction*.

Deconstruction Is Justice

Why might this be important? The most straightforward answer is that we might point at cases of metaphysics-in-deconstruction to do justice to what is absent and invisible but yet is necessary for something to be present. It is to do justice to what is excluded from what is present but is nonetheless necessary for what is present to be present. It is about challenging the authority of the "is," as Derrida has put it, the authority of presence—and in this sense, revealing metaphysics-in-deconstruction can be seen as a critical "gesture." More positively, it is about doing justice to the "other of presence"—which is

one of the main reasons why Derrida has suggested that deconstruction actually *is* justice.

This makes it clear that, unlike what many people seem to assume, Derrida's philosophy—which is sometimes itself referred to as *deconstruction* or *deconstructionism*—is not negative or destructive but rather *affirmative*. It is affirmative of what is absent from what is present but yet makes this presence possible. Derrida's philosophy thus seeks to open up the metaphysics of presence—or for that matter any system that presents itself as self-sufficient—in terms of what cannot be thought of in terms of the system and yet makes the system possible. This means that the point of revealing metaphysics-in-deconstruction is not simply to affirm what is *known* to be excluded. It rather is an affirmation of what Derrida refers to as something that is "wholly other," of something that is unforeseeable from the present. Revealing metaphysics-in-deconstruction thus entails an openness toward an *unforeseeable* in-coming of what is other. In some places, Derrida refers to this as "the impossible," bearing in mind that "the impossible" is not about what is *not* possible but about what cannot be *foreseen* as a possibility.

Beyond Foundationalism and Antifoundationalism

All this does not amount to a destruction of metaphysics. While Derrida questions the possibility of pure, self-sufficient foundations, he stresses that this does not mean that we can simply do away with them, for the simple reason that to be antifoundational, we already need to stand somewhere. Although Derrida wants to "shake" metaphysics—and in this regard his philosophical work clearly has a critical impetus—he acknowledges that this cannot be done from some neutral and innocent place "outside" of metaphysics. What is more to the point, therefore, is that Derrida wants to "shake" metaphysics by showing that metaphysics is itself always already "shaking," that it is always already "in deconstruction." In this regard, his "project" is different from those forms of critical philosophy that position themselves outside of what they want to be critical of or that simply declare that we should abandon the whole idea of foundations.

Education-in-Deconstruction, Deconstruction-in-Education

Derrida's work has suffered from quite a lot of bad press, particularly from those who saw it as destructive rather than affirmative—who saw it as a destruction of certainties rather than as an affirmation of the exclusions that make such "certainties" possible. Nevertheless, educational theorists and philosophers have tried not only to show the ways in which deconstruction can be said to occur in education but also to highlight why it might be important to make this visible. One important line of work has focused on the role of communication in education. While communication is often depicted as the transportation of information from one location to another, *human* communication is a process that takes place through interpretation. We can say, therefore, that it is only because students try to make sense of what their teachers teach that education is possible. This reveals, however, that what makes education *possible*—interpretation—at the very same time makes it *impossible*, as interpretation is a radically open process where the identity between what is said by the teacher and how it is interpreted by the student can never be completely guaranteed. Why might it be relevant to highlight the deconstructive character of educational communication? Not to suggest that education is not possible at all—which would be a destructive conclusion—but rather to appreciate what would happen if education were to become 100% possible, so to speak—that is, when education would turn into a process of the "perfect" transmission of information from teacher to student. To achieve this would require that we suppress all interpretation; it would require that we turn our students from human subjects into abstract, inhuman objects. While some believe that this is all that education should be about, many would argue that this turns education into indoctrination and would thus lead to the end of education. This is an important reason why we need deconstruction in education.

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See also Critical Theory; Postmodernism; Semiotics

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Deliberative Democracy

Deliberative democracy is a growing branch of democratic theory that is very influential in contemporary political practice. Deliberative democrats suggest understanding democracy in terms of exchange of reasons rather than voting or aggregation of preferences. Deliberation involves a process of mutual justification where participants offer reasons for their positions, listen to the views of others, and reconsider their preferences in light of new information and arguments. However, deliberative democracy is not a unified theory; different versions of this approach exist.

The roots of deliberative democracy can be traced back to Aristotle and his notion of politics; however, the German philosopher Jürgen Habermas's work on communicative rationality and the public sphere is often identified as a major work in this area. This entry first focuses on the theoretical underpinnings of deliberative democracy and identifies its different strands. It then describes how this theory has been applied in practice, noting its role in civic education; and finally, it presents the various criticisms that have been leveled against it.

Legitimacy

Deliberative democracy has been developed as a response to the legitimation problems of representative democracies. Although deliberative democrats differ in the extent of their criticism of representative democracy, they often conceive their view not as an alternative to liberal representative democracy but as an expansion of it. This means that while traditional tools of decision making (majoritarian voting, elections, and legislatures) remain essential, the public deliberation of free and equal citizens becomes central in legitimating collective decisions. As Joshua Cohen puts it, on this account democratic legitimacy is understood in terms of the "right, capacity and opportunity" for those affected by collective decisions to participate in the making of those decisions. Other deliberative democrats define the conditions required for achieving democratic legitimacy differently. While procedural theorists locate the source of democratic legitimacy in the presence of fair rules of the process, substantive theorists focus on the fairness of the final outcome.

Schools of Thought

Deliberative democrats differ on the questions of what sorts of communications count as deliberative, where deliberation should occur, who should deliberate, and what should be the outcome of such participation. There are no doubt continuities among these scholars, yet they operate ultimately with divergent fundamental assumptions and see different processes at work when they emphasize the need to make democracies more deliberative. It is common to distinguish between the Rawlsian and Habermasian accounts of deliberative democracy.

According to John Rawls, and the scholars advocating his approach, public deliberation must meet certain constraints to ensure that citizens are treated as equals. The most important condition is that every claim should be subject to a "public reason test." This implies that citizens should advance only those reasons that are principally acceptable to all. If citizens discover disagreements emanating from their "comprehensive views," that is, from their cultural or religious convictions and beliefs, they ought to pursue a path of what Bruce Ackerman calls "conversational restraint." Obviously, on this account, not every issue deserves deliberative treatment; the scope of public deliberation is restricted to the issues that relate to "constitutional essentials" (political norms and institutions) and questions of basic justice. Accordingly, the suitable spheres for deliberation are also restricted; the advocates of the Rawlsian approach maintain that deliberation should occur only in the state and its institutions, such as courts or legislatures.

In contrast to this rather narrow understanding of deliberation, Habermas and his followers argue that deliberation must be open to all who are affected by its outcome. There should be no constraints on topics as long as what is said can be shown to be pertinent to the issue under discussion. Habermas extends the range of acceptable reasons in public deliberation provided that they meet the "moral justification" requirement of public deliberation. This requires rational arguments that are "in the best interest" of all participants. This constraint aims to promote rational reasons, rather than powerful interests, as the basis of the common good and the path to achieving rational consensus as a result of public deliberation. Habermas is committed to

a conception of rational consensus as a regulative ideal that should guide deliberation and legitimate its outcomes.

Unlike Rawls, Habermas conceives of deliberation as taking place beyond small-scale forums, defining it as a broad communication process, or what he calls "subject-less communication," that occurs in the public sphere. This concept is reflected in Seyla Benhabib's definition of public deliberation as "anonymous and interlocking conversations" and in John Dryzek's notion of "discursive democracy" as contestation of discourses in the public sphere. For Habermas, and those influenced by him, deliberative democracy requires the presence of a vital public sphere, where contestation among citizens, groups, movements, and organizations, and opinion formation can take place. The core function of the public sphere is to identify social and political problems and thematize them in such a way that they are taken up by formal decision-making bodies such as parliaments.

The Systemic Turn

The differences between the Rawlsian and Habermasian accounts are reflected in the recent conceptualizations of public deliberation as micro- and macrocommunicative processes. While microtheories of deliberative democracy tend to focus on deliberation in relatively small groups in structured and formal deliberative forums (e.g., citizens' juries), the macrotheories draw our attention to the discursive side of democracy—the argumentation and contestation that take place within the broader public sphere. More recently, deliberative democracy has taken a systemic turn; it has emphasized that rather than conceptualizing deliberation as something that occurs in either structured forums or the broader public sphere, it is important to recognize the multiplicity of deliberative venues in contemporary democracy. The concept of a deliberative system was originally developed by Jane Mansbridge, who argued that public deliberation should entail multiple kinds and modes of conversation, including "everyday talk."

Applications

Deliberative democracy has been applied to various practical problems and policy areas, including complex divisive issues around the globe such as health care, climate change, policing, or city planning. Deliberative democracy is implemented in practice usually by setting up forums or "mini publics" involving randomly selected citizens. Examples include citizen's juries, which have been created by Ned Crosby in the United States; citizen's assemblies, which were pioneered in British Columbia; and consensus conferences, as developed by the Danish Board of Technology and widely applied elsewhere. One increasingly popular application of deliberative democracy has been the participatory budgeting process as used in Porto Alegre in Brazil, where participants are empowered to make decisions on how to allocate a defined public budget. Deliberative democracy has also been used in the context of public opinion research as a method of developing citizen preferences on difficult issues. The "deliberative polling" suggested by James Fishkin, for example, aims to construct hypothetical representations of what public opinion on a particular issue might look like if citizens had an opportunity to deliberate about it. As Enslin, Pendlebury, and Tjiattas (2001) note, deliberative democracy also plays a crucial role in the context of civic education, and educational theory in general; it helps identify the required knowledge and skills citizens should possess to participate in democratic processes effectively.

The application of deliberative democracy is not confined to local or national politics. Deliberation is claimed to offer the most suitable decision-making mechanism for multilevel polities such as the European Union. Some scholars, such as Dryzek, go even further and argue that deliberative democracy is amenable in global politics, where conventional aggregative decision-making mechanisms, such as elections or voting, are generally implausible.

Critics

Deliberative democracy has been subject to various lines of criticism. Some criticize deliberative democracy for being naively utopian in a world where politics is essentially about unequal power relations and the furtherance of self-interests. These critics point out the gap between the ideal of deliberation and actually existing conditions to justify the impracticality of deliberative democracy in any form. Others acknowledge that deliberation can be practiced but characterize it as an exclusionary and elitist model of democracy that fails to take into account the pervasive differences of race, gender, and class. Agonists such as Chantal Mouffe criticize deliberative democracy for its attempt to build "consensus" among conflicting parties, which they think

only leads to the oppression of differences. Agonists see democratic politics in terms of continued and open-ended struggles and argue for agonism over deliberation. More sympathetic critics, such as Iris Young, raise serious internal difficulties and seek to expand deliberative democracy in ways that can better accommodate the various differences citizens may have. In a similar vein, Nancy Fraser sees the Habermasian notion of the public sphere as a unitary bourgeois construct and expands it through her focus on multiple publics, including "subaltern counterpublics," formed by oppressed minorities. Some of these criticisms have already been incorporated into the theory of deliberative democracy.

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See also Citizenship and Civic Education; Critical Theory; Democratic Theory of Education; Dialogue; Rawls, John

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Democratic Theory of Education

Democratic theories of education embrace the assumption that society is constituted by citizens with a great diversity of life plans and that individuals' efforts to pursue them can lead to conflict or, at a minimum, questions about the relative distribution of opportunities and resources. Thus, democratic theories of education concern themselves both with authority over the way schools function as institutions with great socializing power and with the capacities and dispositions individuals must develop to sustain democratic social relations from one generation to the next. This entry will discuss a number of such theories, but it will also reject the assumption that all democratic theories of education are to be found in the liberal tradition. Nevertheless, an important theme of the entry is highlighted in the words of one of the liberal tradition's central proponents, Amy Gutmann (1999), who argued that democratic theories of education aim at preparing citizens to engage in "conscious social reproduction" (p. 14).

John Dewey and the Great Community

No account of democratic theories of education can escape the historical influence of John Dewey's legacy, most notably his landmark text, *Democracy and Education* (1916). Here, Dewey embeds schooling in a broader vision of democratic life, which he famously characterizes as "primarily a mode of associated living, of conjoint communicated experience" (p. 87). In that work and others, Dewey explores the relationship of schooling to conscious social reproduction, though his answer might best be described as involving conscious social *reconstruction.* For Dewey, schooling is a powerful socializing experience that helps young people develop the skills, habits, and knowledge that support participation in democratic life. Rather than seeing democratic education as a fixed set of practices or a definitive body of knowledge that might ensure proper socialization, Dewey argues instead that it should be understood as the means by which students learn to engage in forms of inquiry rooted in and responsive to the collective projects of the community. Dewey understood that these forms of inquiry would change and evolve over time and that schooling would need to constantly adjust to both the developmental needs of youth and the forms of knowledge appropriate for a given time and place. Thus, citizens educated in a healthy democracy learn to critique and reconstruct the very institutions and practices that shape their lives now, in order to sustain the foundation of democratic social relations over time. Dewey envisioned schools as embryonic democratic communities, where students learn how

to engage in the process of collective reconstruction and how to find their own paths within it.

Democratic Citizenship, Cultural Pluralism, and Civic Virtues

Democratic theories of education, like their political counterparts, must face the challenge that pluralism presents for any participatory form of governance. Indeed, it would not be unfair to describe this as the most pressing issue for both educational and political theories of democracy. Largely drawn from the tradition of liberal moral and political thought, the approaches considered in this section pursue two related questions: (1) how can decisions about schooling be made when disagreements arise (including differences about the requirement to participate in public schooling at all) and (2) how can students be best prepared not only to live in a pluralistic society but also to prosper from the many benefits that such diversity brings?

Many contemporary answers given to these questions by liberal educational theorists have been informed by the work of the philosophers John Rawls and Michael Walzer. Amy Gutmann (1987/1999), for example, influenced by Walzer, offers a democratic theory of education that seeks to determine the boundaries of authority in making educational—that is to say, political—decisions: "Except by abolishing mandatory schooling, there is no way of avoiding a political decision about the content of schooling, its distribution, and the distribution of educational authority" (p. xi). Thus, rather than trying to settle conflicts over educational policy and practice through the application of some timeless moral calculus, Gutmann seeks a principled way to determine the authority and responsibilities that individuals, families, and the state possess to settle such disagreements. Gutmann's principles of nonrepression and nondiscrimination set limits on the exercise of each group's authority, fostering educational experiences that help students develop the capacities to participate in similar activities in the future. Gutmann's approach eschews barriers to participation (especially by less powerful groups) while remaining responsive to the changing circumstances of life in a democracy and the cultural differences that inevitably constitute it.

Other approaches to answering the two questions posed above focus more directly on the virtues and capacities that schools might seek to develop in students in order to prepare them for life in a pluralistic democracy. As with Gutmann, such theorists begin with the recognition that this requires a form of political education aimed at reproducing democratic social relations in a way that does not diminish or marginalize the diversity of life plans that citizens hold. Eamonn Callan (1997), for example, has this orientation; he draws a distinction between "reasonable and unreasonable pluralism" and posits that education should help students to discern the difference. Common schools are places where students learn to be reasonable, that is to say, they are places where they learn to understand, exchange, and explore the reasons given by others who are different from them.

Many other examples might be considered to give greater breadth to this perspective. Ken Howe (1997), for example, focuses on the concept of equal educational opportunity ("opportunities worth wanting") as a foundation for democratic educational theory. Building on the work of the political philosopher Will Kymlicka (and to some extent on the work of Gutmann as well), Howe argues that by considering the "context of choice" that schools present, we can better see how responsive they are to the multiplicity of identities and life plans that students bring, as well as the barriers to success that many students experience. Meira Levinson (1999) argues that liberal education and liberal politics cannot exist without each other and that their shared commitments require an "autonomy-promoting education" to establish the common deliberative qualities necessary for reasoned exchanges and decisions in the public sphere. David Blacker (2007) argues that schools should be much more permeable to reasonable and competing cultural beliefs, traditions, and groups. For Blacker, deep commitments associated with "comprehensive conceptions of the good" are primary sources of motivation for democratic engagement. In response to the inevitable conflicts that do emerge, Blacker argues that groups must embrace norms of reasonable public discussion buttressed by commitments to a Rawlsian conception of civic friendship.

While the liberal tradition is a rich and robust source of answers to the questions with which this section opened, its ideas have provoked responses from a variety of sources, not the least theorists embracing conservative or neoconservative political perspectives. Rather than seeing cultural pluralism as an inevitable and generative attribute of democratic life, many see these aspects as potential threats to both national identity and social stability. For

example, Arthur Schlesinger Jr. (1998) worries that an uncritical expansion of the academic canon by advocates of multicultural education risks diminishing the core values that hold the nation together. He asks, "When does the obsession with difference begin to threaten the idea of an overarching American nationality?" (p. 81). In a long series of popular books ranging from 1988 to 2009, E. D. Hirsch Jr. has argued that access to the benefits of democratic society depends on the acquisition of a core set of cultural ideas and reference points (i.e., cultural literacy) that democratic schools should overtly teach. He rejects Deweyan progressivism as the source of much wasted effort and ineffective instruction and argues for more direct transmission of this common body of knowledge, especially to students from marginalized backgrounds.

Culture, Power, and Critical Consciousness

Theorists in the critical tradition have long argued for the necessity of a more structural approach to understanding how schools succeed or fail in building and sustaining democratic social relations. These theories focus on the ways in which schooling helps reproduce hierarchies of power and status based on class, race, gender, and other salient aspects of social identity. They often reject liberal theories of education as overly individualistic in their analysis of the roots of contemporary challenges to democracy and as being ill equipped to justify or guide the necessary reforms.

Critical theorists are also interested in how schooling shapes the understanding of students and prepares them to participate in a democratic society. A major difference, however, rests in the starting point of this process. Using concepts from the Marxist tradition, such as ideology and hegemony, critical theorists seek to demonstrate how social institutions like schools can shape the consciousness of individuals in ways that constrain the exercise of democratic deliberation, reduce the capacity for discerning the source and significance of inequality, and reproduce structural hierarchies that sustain class privilege into the future. The relationship of ideology to consciousness is so fundamental, critical theorists argue, that it shapes the very nature and construction of knowledge.

If democratic societies are to be open and responsive to the needs of all citizens, then schools have a crucial role not just in helping students develop capacities related to participation but also in assessing existing forms of knowledge, patterns of social interaction, and norms of institutional practice. These may actually be the product of class interests, and their acquisition a form of oppression or complicity. Schooling should contribute to "illuminating the tendencies for unwarranted and often unconscious domination, alienation, and repression," as Michael Apple argued in his groundbreaking work *Ideology and Curriculum* (1979/2004, p. 126). On this account, students must develop the kind of critical consciousness that allows them to question unexamined assumptions and taken-for-granted understandings of the world in order to discern the interests that may motivate seemingly neutral and uncontroversial knowledge claims, especially those found in school curricula. For teachers, as Ira Shor notes, this entails crucial choices about how to engage students with the curriculum and where they find themselves within it. Critical theorists press for a deeper understanding of the relationship between power, knowledge, and various aspects of education for democracy, including curriculum content, instructional practice, and the organization of schooling.

Future Directions in Democratic Educational Theory: Cosmopolitanism

In contrast to democratic educational theories, most of which assume an individual nation-state or society as the primary unit of analysis, work in cosmopolitan moral theory suggests a different starting point. Cosmopolitanism challenges traditional conceptions of the boundaries of moral obligation and political affiliation—and thus the role of schools in society—by expanding the focus of deliberation to a global scale. Because there is a global common humanity, and because the solutions to global problems require collaboration across state boundaries, cosmopolitan theorists challenge traditional views of democratic education on both moral and political grounds. Martha Nussbaum and Joshua Cohen (1996), for example, argue that one of the primary goals of cosmopolitanism is to reduce the distance between innermost experiences of affinity and the outermost circle of global awareness.

Like other democratic educational theories, such an approach aims at building a variety of capacities related to deliberation and dialogue. Unlike other perspectives, however, cosmopolitan education would confront an even greater diversity of (and conflict among) cultural identities and social

locations. Schooling under these terms would take the familiar virtues and capacities of democratic education (including, for some, the development of critical consciousness) and extend them beyond the customary boundaries of the state. Education for democracy in a cosmopolitan world would focus on building the capacity to engage in authentic inquiry, dialogue, and collaboration across national and cultural boundaries; the capacity for inquiry directed at the fundamental social, political, and cultural structures that shape self-understanding and understanding of others; and the disposition to seek reciprocity with others through perspective taking and mutual exploration of life plans. At its roots, a cosmopolitan education would be guided by a commitment to engage deeply with the processes by which identity, culture, and political systems are constructed and reconstructed over time.

Such an education stretches the notion of "conscious social reproduction" to its limits and perhaps beyond. It is here that Kwame Anthony Appiah's (2006) conclusion is perhaps most appropriate not only for cosmopolitanism but for all democratic educational theories: "Cosmopolitanism is the name not of the solution but of the challenge" (p. xv).

Scott Fletcher and Peter Nelsen

See also Apple, Michael; Citizenship and Civic Education; Cosmopolitanism; Critical Theory; Cultural Literacy and Core Knowledge/Skills; Deliberative Democracy; Dewey, John; Liberalism; Rawls, John

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Deschooling Society: Ivan Illich

In education, Ivan Illich (1926–2002) is closely tied to his most famous book *Deschooling Society*. This book not only featured a radical critique of modern education institutions that were undergoing unprecedented expansion in the 1970s but also offered a set of proposals or guidelines for anyone intent on creating a world without schools. Furthermore, in this book, Illich experimented with a new critical study of educational institutions. He considered that beyond the rituals of schooling and the culture of social reproduction that fed the schools, a justificatory and legitimizing discourse could be discerned. Illich placed this discourse into the context of the U.S.-driven developmentalist policies of the second half of the 20th century. In an environment of deep systemic restructuring happening worldwide, the idea of progress was the background to school expansion. As a result, as was stated in *Deschooling Society*, fighting against development and progress imposed by capital meant fighting with the very institutions that supported them. One such institution was the school.

Deschooling Society was the book that had the most impact of all the books that Illich produced in the 1960s and 1970s, the time when he took up residence in the city of Cuernavaca (Mexico). He railed against schools as the institution that was the depository of the highest aspirations of Western societies, which led to an unprecedented uproar in academic circles as well as in many of the social movements that still believed that educational institutions were capable of solving society's biggest problems. In addition, those who in the mid- to late 20th century had set out to organize alternative spaces for learning that were different from the official education

systems found that *Deschooling Society* gave them new material for criticizing schools while opening up a range of pedagogic alternatives that could be exploited and implemented. Furthermore, many of these alternatives also involved a change in perspective regarding the use of the existing technology, which in turn involved a change in the conception of the relationship that a society can establish with the technology it is capable of creating. In place of the corrupting influence of educational institutions that treated education as a commodity, Illich proposed the establishment of "learning webs" (which could be facilitated by the emerging computer technologies), wherein skills and knowledge could be passed on through peer-to-peer voluntary contact. In a sense, it may be said that Illich amply carried out the latent objective in his work: to break the myths around schools and schooling.

Illich did not content himself with laying out the theoretical lines that justified the thinking of a society in which education was de-institutionalized. Rather, he also put into practice many of his postulates at the center that he and a tight-knit group of collaborators opened in the Mexican city of Cuernavaca: the Centro Intercultural de Documentación (CIDOC; International Documentation Center). Open from 1963 to 1976, this center became a space of international renown where avant-garde intellectuals and politicians came from all over the world to study, research, and converse. Along the hallways of Illich's center could be found the likes of Paulo Freire, Peter Berger, Erich Fromm, Paul Goodman, Enrique Dussel, André Gorz, Jean-Pierre Dupuy, Augusto Salazar Bondy, Susan Sontag, John Holt, Everett Reimer, Francisco Julião, Octavio Paz, and others. Sweeping sectors of the social protest movements also took part in activities there, and the center helped bridge the gap with the emerging counterhegemonic and counterculture sectors that were turning Latin America into one of the most outstanding political laboratories on the international scene.

Currently, a careful reading of *Deschooling Society* may be more worthwhile for the historian studying the mind-set of the 1960s and 1970s than for someone who now wishes to study minimally feasible alternatives to traditional schooling. When analyzed in the shadow of the philosophic, economic, sociological, anthropological, or historical approaches of the past 40 years, Illich's book comes across as an imprecise essay that adopts an outdated methodology. It is worth mentioning that Illich himself detected many of these theoretic blunders in *Deschooling Society* in later decades. In fact, in an introduction to the book by Matt Hern titled *Deschooling Our Lives* (1995), he even wrote that his critique in the 1970s of educational institutions was a naive effort at understanding the discursive complexity that upholds and reinforces education and its institutions in the modern world (e.g., the influence of the family, mass media and advertising, and economic institutions was downplayed). More than 20 years after it was first published, he considered that the texts making up *Deschooling Society* in some ways were a sincere effort at bringing to light the damage done to the world by the spread of the institutionalization of learning, although they were mistaken because he himself at that time had been barking up the wrong tree in his attempt to configure a criticism of the modern institutions of education.

Jon Igelmo Zaldívar

See also Freire, Paulo: *Pedagogy of the Oppressed* and Critical Pedagogy; Homeschooling

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Design Experiments

Introduced in 1992 in the educational research literature in two seminal articles by Ann Brown and Allan Collins, a design experiment (DE) is a method

of inquiry that embodies what is today commonly called design-based research. A major characteristic is that a DE involves the development and application of an instructional intervention in a genuine educational setting. Complaints about the disconnect in education between research and theory, on the one hand, and educational practices, on the other, are still the order of the day. In view of bridging this gap, DEs have a twofold goal: advancing theory building about learning from instruction while at the same time contributing to the fundamental innovation and improvement of classroom practices. After a more detailed description of the characteristics of a DE, critical discussions of DEs will be addressed, and a final comment will be made about the current status of design-based research.

Basic Characteristics of DEs

According to Brown and Collins, DEs aim at the development of a design science of education that can guide the design and implementation of novel effective learning environments. In terms of Donald Stokes's quadrant model of scientific inquiry, DEs can thus correctly be situated in Pasteur's quadrant (named for the research of Louis Pasteur), which represents use-inspired basic research. Indeed, DEs aim at the simultaneous pursuit of the advancement of our understanding of the processes of learning and instruction, on the one hand, and the innovation and improvement of classroom practices, on the other. In that perspective, a key feature of a DE consists of the *theory-driven* creation of an educational intervention: Designing the intervention draws on the available evidence-based knowledge about productive learning and effective teaching that derives from multiple disciplines, including developmental psychology, cognitive science, the learning sciences, educational technology, curriculum theory, instructional design, anthropology, and sociology. But a DE is also *theory oriented*: It is anticipated that the implementation and evaluation of the intervention will contribute to the continuous development and elaboration of theory.

To warrant as much as possible that DEs will result in principles and artifacts that can lead to the innovation and improvement of classroom practices, the design of interventions takes place in an interactive collaboration among researchers and practitioners, and the interventions are implemented and evaluated in regular classroom contexts. Both aspects are essential conditions in view of achieving effects in the real world. A special feature of most DEs is also that they run over a long period of time and involve multiple iterations, that is, the intervention is flexibly adjusted, refined, and improved as it unfolds during the course of the investigation.

To assess the effects of an intervention in a DE, multiple mixed methods—quantitative as well as qualitative—are used in an integrative way to assemble and cumulatively construct a body of evidence that supports the underlying theoretical principles of an innovative approach to learning and teaching. It is important not to confuse design-based research and action research. There are similarities among these two research strategies: Both address real educational problems and set up actions in collaboration with practitioners who aim at solving them. However, whereas action research focuses on meeting local needs, the major goal of design-based research is the development and elaboration of theory that can guide the design of powerful learning environments.

Critical Discussion of DEs

Since its emergence two decades ago, DEs have received growing interest in the educational research community, as is evidenced by the fact that in 2003 and 2004 three major journals in the field published a special issue devoted to design-based research: *Educational Researcher*, 2003, Vol. 32 (1); *Journal of the Learning Sciences*, 2004, Vol. 13 (1); and *Educational Psychologist*. However, besides enthusiasm about the potential of DEs to contribute to bridging the disconnect between research and practice, this methodological approach has also evoked criticisms that mainly relate to objectivity, concern about data selection, lack of rigor, and the possibility of simultaneously contributing to theory building and improvement of educational practices.

The problem of objectivity arises because in a DE the researcher is also a participant in the development and implementation of the intervention and thus adopts two potentially conflicting roles. Ann Brown herself raised the danger of biased interpretation of data in the direction of the researcher's expectations in her 1992 article, referring to it as the *Bartlett effect*. The second criticism concerning data selection—also already discerned by Brown—aggravates this problem and derives from the iterative nature of design-based research. Indeed, the iterations result in an excessive amount of data from which the researcher has to make a selection

for analysis. It is of utmost importance that design-based researchers are aware of these problems that can jeopardize objectivity. An approach suggested by the Design-Based Research Collective to warrant as much as possible this objectivity consists in using triangulation of a variety of data from multiple sources.

From the perspective of the canons of experimental research, DEs are criticized, for instance, by Joel Levin and Angela O'Donnell, for lack of rigor, especially for the confounding of variables and the lack of randomization. Both issues derive from the fact that in a DE complex interventions are engineered and implemented in a rather small number of naturalistic classroom settings. Because of the complexity of the learning environments in DEs, it becomes impossible to disentangle the relative contribution of the different variables involved in producing the effects of the intervention. Furthermore, moving into the everyday reality of self-contained and often messy classrooms easily conflicts with the canon of randomization, the more because in many cases no control classes are involved. However, one can argue that the systemic approach of DEs is nevertheless appropriate and defensible when the focus of interest is to evaluate the quality and effectiveness of a multicomponential intervention. Of course, this approach should be complemented with more rigorous randomized classroom trials. Indeed, as argued by Susan McKenney and Thomas C. Reeves, increasing the methodological robustness is a challenge.

Single DEs can certainly not lead simultaneously to theory building and the improvement of practice. However, analysis of the now available literature on design-based research, for instance, in a recent article by Terry Anderson and Julie Shattuck, seems to support this potential of DEs. It is plausible that through sequences of intervention studies, combined with more controlled investigations, DEs can contribute to the advancement of theories of learning from instruction by exploring the potential of novel learning environments and developing contextualized theories of learning and teaching.

Final Comment

As argued by Terry Anderson and Julie Shattuck, the application of DEs has increased over the past decade, and this is certainly also due to the positive effects on student outcomes. One can say that today design-based research has acquired the right to exist in educational research. However, so far the success of this methodology is restricted to small-scale interventions. Expanding the approach on a larger scale is a major challenge for the coming years.

Erik De Corte

See also Educational Research, Critiques of; Learning, Theories of; Pure and Applied Research and *Pasteur's Quadrant;* Qualitative Versus Quantitative Methods and Beyond

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Dewey, John

John Dewey (1859–1952) was a founder of American pragmatism and a major figure in the progressive education movement, which flourished in the early to mid-20th century. Born in Burlington, Vermont, where he attended public school, Dewey went to the University of Vermont, where he became interested in philosophy. After graduation, he taught briefly in Oil City, Pennsylvania, known (as its name suggests) for its early role in the petroleum industry.

Dewey was born the same year as Darwin's *Origin of Species* (1859) was published, and one year before the Civil War began. Both events would prove to be landmarks for Dewey's thought: Darwin because his ideas about evolution permeated Dewey's

philosophy; the Civil War because Dewey inherited and advanced the new understanding of industrial democracy that it inaugurated. Indeed Dewey was as much an *American* philosopher as Walt Whitman was an American poet or Mark Twain an American humorist. As a man, he reflected his times and place; as a philosopher, he worked to understand how to direct the energy they produced toward democracy; as an educator, he worked diligently to reform schools and to reconstruct our understanding of the educational process.

Dewey was a philosopher of the industrial and scientific age. Only 10 years before his birth, the railway first connected the East Coast to the Great Lakes, and 10 years later, it was extended, reaching from the East Coast to the West. Before he died, a message could be transmitted overseas by phone in seconds, roads tied together every part of the country, and transcontinental jet air travel was poised to become commonplace. Dewey was also a philosopher of transformation, living through two world wars: He saw the country altered from a minor player on the international stage to the most powerful country on earth. And he was a philosopher of liberal democracy, working to ensure that democratic traditions survived and flourished in an age of great wealth and technological expertise. Dewey's philosophy reflected these changes and articulated their significance as he strove to understand their implications for philosophy, for education, and for everyday life.

As important as the Civil War (1860–1865) was in the rebirth of the nation, Dewey came to understand that it had not fulfilled Lincoln's promise of a rebirth of freedom. Women still could not vote; industrial workers were exploited; immigrants were discriminated against and oppressed, while Blacks were systematically terrorized.

Like Karl Marx, Dewey felt that the new industrial age provided liberating possibilities, and like Marx too, Dewey understood that there were many roadblocks that needed to be addressed before these possibilities could be realized. He rejected traditional philosophy because of its antiscience bias and pointless quest for certainty; he criticized the schools of his day for their outdated methods; he objected to the irrational authoritarianism of religion, and he condemned the selfish exploitation of labor by profit-hungry capitalists. Yet Dewey believed that these were but roadblocks to the fulfillment of democracy, roadblocks that could be removed by educational reform and the exercise of social intelligence. This belief would be sorely tested during his lifetime.

Dewey's Early Life and the Development of His Thought

In 1884, Dewey received his doctorate from Johns Hopkins University, the first research university in the United States, which was based on the German model. He had studied under the neo-Hegelian G. Sylvester Morris (1840–1889) and was heavily influenced by Hegelian idealism. But whereas Hegel (1770–1831) saw human history as a predetermined unfolding of an already present destiny, Dewey would soon come to embrace the more open-ended, probabilistic understanding of life advanced in different ways by the naturalist Charles Darwin (1809–1882) and by American pragmatists such as William James (1842–1910) and Charles S. Peirce (1839–1914).

After publishing his first article in the *Journal of Speculative Philosophy*, edited by the prominent Hegelian educator W. T. Harris (1835–1909), and completing a dissertation on Kant, Dewey took his first teaching position as an associate professor at the University of Michigan in 1884. In 1894, he became head of the Department of Philosophy, Psychology, and Pedagogy at the newly founded University of Chicago, where he also served as director of the University Laboratory School.

In Chicago, influenced by the social reformer Jane Addams (1860–1935) as well as by his wife Alice (1859–1927), who served as principal of the Laboratory School, Dewey began to address the condition of immigrants and industrial workers. In 1904, Dewey resigned from the University of Chicago after a bitter and irreconcilable dispute with its first president, William Rainey Harper, over Dewey's control of the expanded Laboratory School and the unexpected firing of his wife. He was quickly hired by Columbia University, where he had a position both in the philosophy department and at Teachers College. He retired from Columbia in 1930 but continued to hold an office there until his death in 1952. During his life, Dewey's influence spread throughout the world; his works were translated into many languages, including Chinese, Japanese, and Turkish.

Dewey and Pragmatism

In addition to Darwin, the main influences on Dewey's mature thought were the American pragmatists Charles Peirce and William James, along with Dewey's colleague the sociologist George Herbert Mead (1863–1931). Pragmatism, which flourished from the late 1800s to the 1950s, was a response

to the rapid changes in American society in the post–Civil War period. It emphasized science and experimentation while de-emphasizing traditional metaphysics and, in Dewey's terms, "the quest for certainty." Pragmatism broke from traditional philosophy by denying that truth could be construed as a claim that lined up some inner mental event, such as ideas, with some pure and simple external reality. Rather, the test of truth, or what Dewey would refer to as warranted assertibility, was attained through the systematic, ongoing, self-corrective process of science.

The key to pragmatism was first laid down by Peirce when he affirmed that beliefs are simply rules for action. To say, for example, that *X* is harder than *Y* simply means that *X* can scratch *Y* and that *Y* cannot scratch *X*. James (1991) extended Peirce's ideas about meaning into a general pragmatic method: The pragmatic method means "the attitude of looking away from first things, principles, 'categories' supposed necessities; and looking towards last things, fruits, consequences, facts" (p. 27). For Dewey, thought is initiated by the problems we confront and is tested by our success or failure in confronting them. A problem arises out of a disruption in our habituated response that interrupts the flow of activity, producing a felt tension. Thinking is then the systematic process of deliberation that seeks to overcome this disruption and relieve this tension through inquiry. Reason is a tool that enables us to solve problems, to renew experience, to get on with life, and to reweave the flow of activity.

Thinking then entails both a conservative and a liberating element. It is liberating insofar as it projects alternatives and allows us to act on the most promising way to remove obstacles and to renew the flow of experience. It is conservative insofar as it connects these alternatives and evaluates them not only by how well they remove the roadblock but also by how well they cohere with the network of other habits that constitutes a self, and by how consistent the new beliefs are with prior beliefs and habits that are not up for consideration at the present. Thinking bridges the old and new. Should the new belief be too radical, it is in danger of being impractical utopianism. Should it be too conservative, it would encourage repeating dysfunctional and self-defeating behaviors.

Dewey as Philosopher

Dewey was both a philosopher and a public intellectual. He acted on his belief that philosophy should not just address the problems of philosophers, as he believed had been the preoccupation of philosophers in the past. At a time when science was largely associated with the physical and biological realms, he argued that the methods and spirit of science be extended to the social world as well. He argued that philosophy's concern must be the "problems of men" informed by science, for the sake of individual growth and enriched democracy. Traditional philosophy's quest for certainty and absolute truth should be abandoned, and replaced by whatever science will allow us to claim and however long it will allow us to claim it.

Dewey's educational and social philosophies were directly linked to his unique understanding of both science and democracy and of the possibilities that they have to enhance the life of individuals. For Dewey, the importance of science was more than its findings. Science suggested both a way of thinking and a way of being, and each he felt was essential for democracy. As a way of thinking, science was seen as a process of systematically reflecting on and refining belief in to improve individual experience and social life. As a way of being, science involved a community engaged in reflective thought, where evidence is public and available for all to see and where a careful consideration of evidence will be used to decide differences and formulate consensus. Essential to them both was a certain kind of temperament, an emotional spirit that is not only open and inquiring but also critical.

Dewey rejected the passive psychology inherited from empiricists like John Locke (1632–1704) and the view that knowledge consisted of imprinting sensations on the mind, conceived of as a blank slate. The problem with this view, according to Dewey, was both philosophical—it had an inaccurate understanding of human conduct—and practical—it spawned destructive social forms and led to inhuman working conditions, economic uncertainty, and destructive educational practices. Dewey rejected the view that human beings were blank slates waiting for experience to write its lessons on them. Humans were not simply passive and inactive beings driven toward pleasure and away from pain. They instead were active agents engaged in soliciting the cooperation of their environment, including their human environment, to solve problems and enhance self-control. Knowing involved an engagement with the world as humans seek to control experience for the sake of richer experience. Rational deliberation, as a rehearsal of different possible courses of action,

engages concepts to promote control. Good concepts are not to be understood as accurate representations of a world "out there" but are tools that enable us to engage the world in more and more predictable and effective ways. Concepts are a lot like shovels and hammers, tools that enable us to get on with activity when obstructions bar our way. And just as we seek new tools when hammers and shovels are not sufficient, so too do we engage new concepts when old ones are inadequate to the task. Moreover, ideas not only help us reorder our own activities, they are ways of redirecting ourselves, of rethinking our own goals and responses to them, and thus of reshaping our own character. And what is true of the individual is also true of the community. In contrast to social Darwinists, who believed that Darwin's notion of natural selection required a competition "red in tooth and claw," in which concern for one's fellows was a weakness that would result in individual or even species extinction, Dewey argued that cooperation enabled humans to control nature and survive and was indeed the foundation of the success of our species. Dewey's liberalism was thus founded not on the selfish individualism of Thomas Hobbes (1588–1679) or on the indifferent individualism of Locke but on a new social individualism where the aim of society is to enhance the unique qualities and potential of each individual and the aim of each individual is to advance the potential for social cooperation.

Yet if Dewey differed from the strict social Darwinists, who saw having traditional moral ideals as weakness, so too did he differ from those who believed that moral and ethical principles were absolutes that could bend to neither time nor events. Hence, Dewey ran afoul of religious as well as biological absolutists—of those who thought moral ideals were absolute and unchanging as well as those who held that they were self-defeating. For the latter, his relativism was as bad as the former's nihilism, while for the former, it was as delusional as the latter's absolutism. Yet Dewey was simply recognizing that different times yielded different opportunities and that different opportunities required different rules of conduct.

For Dewey, the danger for his time was rampant individualism, which he saw as an outgrowth of the old liberalism, a philosophy that Dewey felt had once serviced human need and aided the development of human potential but had now run its course. Now the old liberalism had become a rationalization for economic uncertainty and abusive labor practices, a justification for laissez-faire competition between individuals (if not corporations), an ideology of the economically powerful. In short, Dewey felt that it had become a theory at the service of the rich, justifying destructive competition and blocking opportunities for constructive coordination and the release of human potential that advances in science and technology made possible. Of course, Dewey was not the only theorist to object to the trajectory of liberalism. Karl Marx had a similar insight. However, whereas in Marx's thought progress would come only through revolution, Dewey placed his hope in democracy, education, and the method of science.

Dewey's Philosophy of Education

Dewey's educational theory was formed in the late 19th century during a period of great turmoil about the future of traditional education. An increasing number of states in the United States were making education compulsory until the age of 16 (this level of education had been rare just a few years before); immigration was increasing at a rapid rate, and immigrants were arriving from more diverse areas; working-class children were attending school in ever greater numbers as America was undergoing the transformation from a rural farming society to an urban industrial one. These changes were accompanied by the growing attack on the traditional curriculum, an attack launched by educators such as Francis Parker, by popular journalists such as the muckraker Joseph Mayer Rice, and by respected experimentalists such as E. L. Thorndike, a colleague of Dewey's at Columbia.

As an educational theorist, Dewey straddled two competing standpoints. On one side was W. T. Harris (1835–1909), who advocated academic rigor and subject matter proficiency. For Harris, these were the keys to national prominence and power. On the other side were educators such as Francis Parker (1837–1902), often called the father of progressive education, who romanticized childhood while advocating schools that drew on the natural interest of the child for their motivational energy rather than a strict discipline regime. Dewey steered a middle and experimental course. Like Parker, he saw the child as naturally active and interested, but he believed that this activity needed to be focused and made more thoughtful and that the child's interests needed to be cultivated. Hence, he agreed to some extent with Harris about the necessity of school subjects like history, geography, and science.

Yet whereas Harris emphasized the connection between subject matter and national power, Dewey emphasized their importance to the growth of the child and social progress. These aims determined his understanding of both content and method. For Dewey, subject matter needed to be taught for the sake of enhancing the student's experience, including experience gained by an appreciation of the aesthetics of the disciplines and the value of inquiry. Hence, the right kind of discipline was the one that attached the child's natural interests to the subject matter. It was socially supported self-discipline in the service of growth, or the increased control over the quality of experience. Dewey was making a philosophical point—that method and subject matter can be separated only for the purpose of analysis—but he was also making a political one.

At the time when Dewey began writing about education, there was a growing mismatch between the character of the students in public schools and the largely irrelevant and often mind-deadening methods of an expanding educational system. For Dewey, the problem was not just to attend to the interests of the child, as it was for Parker. It was also to promote shared interests, a sense of the value of participatory democracy and social cooperation. He was concerned about democratic social cohesion and how it might be achieved given the tremendous demographic and social changes of the time. Drawing on his experience in rural Vermont, Dewey believed that in the past, social cohesion had been accomplished through the transmission of communal aims through the face-to-face interaction of different generations in rural communities and their networks of local markets and churches.

Dewey believed that the link between means and ends was much easier for the child to understand when work and life were linked together—as he felt they had been earlier on the farm in a place like rural Vermont. Children learned to understand the long-term consequences of their action through planting a crop, caring for it, harvesting it, and using it. Moreover, they learned the "moral" value of their work because they saw its effect on the family. Life had a natural and transparent rhythm where the consequences of action were clear. In Dewey's perhaps idealized view, work had been tied to home life, and children learned how to execute their future roles by working alongside their mothers and fathers and by being slowly inducted into a caring community of family, friends, and neighbors. Industrial society changed much of this, and because many children no longer worked alongside their parents and because more specialized division of labor took work out of the home, making its method and meaning less transparent, Dewey feared that the connection between learning and doing was being lost for children. His educational theory was intended to maintain this connection in the context of formal schooling. In the lab school, activities like sewing, weaving, and the like introduced children to their social heritage and initiated more thoughtful inquiries. Children were taught no longer to take the fruits of everyday life for granted but rather to understand their source in a deep, experiential way. For example, they might pluck cotton out of cotton bolls, card it, spin it, weave it, dye it, and then reflect on the importance of the cotton gin and on why historically wool was used earlier than cotton. This activity then might be connected to lessons in history, geography, science, and the like.

Critics complained that children were undisciplined and that there was too much play in Dewey's educational proposals. However, for Dewey the distinction between play and work was an overly rigid division impoverishing the ideas of both play and work. He contended that the two terms should refer to the immediacy or the distance of the fruition of an activity; in play, the fruition was close, and in work, it was more distant. Through play, he felt that he could both introduce subject matter in a meaningful way and promote the social role of the school. As children became older, the distance between act and fruition could hopefully become greater. Yet the opposite of play for Dewey was not work but meaningless labor, just as the opposite of work is meaningless frivolity.

Dewey suggested, perhaps somewhat naively, that earlier communities—like the Burlington of his childhood—had been models of participatory democracy, and he was hoping to find a substitute in the public schools that he hoped might spur increased participation and democratization in the workplace. Dewey looked forward to a time when teachers, committed to and trained in democratic pedagogy, would become the new moral guides educating future citizens in the ways of participatory democracy. He also believed that many of the conflicts that immigrants brought with them from Europe—some religious, some rooted in national differences—could be assuaged by a democratic public education system that promoted scientific values and social consensus and through these the continual formation and reformation of both individuals

and their communities. His test for democracy was both social and individual. A democratic education promoted the growth and variety of shared interests among different individuals as well as the freedom to associate with other groups in the fullest possible ways.

The concern to tie understanding to interest and action did not mean for Dewey, as some of his critics have alleged, that schools should ignore traditional subjects for the sake of the child's momentary interest. If there was a problem, it was not with the subjects themselves but with the way they were packaged by curriculum developers, who presented to students a refined, abstract finished product based on adult understandings, without concern for the way this presentation comported with the students' need for meaning and significance. Educators needed to understand that the child's interest did not always correspond to the way traditionalists had carved up the world—into discrete subjects—and that the psychology of learning must inform the logic of the subject matter.

This educational program was backed up by more than just common sense. It was also supported by powerful psychological insight about the interrelation between a self and its environment, an insight expressed in Dewey's groundbreaking article "The Reflex Arc," in which he criticized the rigid distinction between sensation, thought, and act by arguing that sensory stimulus, central connections, and motor responses are not separate and complete entities in themselves but are best understood as functions within the single concrete whole, where each serves to influence the other and where the unity of the whole "determines the values of its constitutive factors." In other words, a coordinated act flows; its longer- and shorter-run aspects inform one another—it is not just a series of disjointed parts. Its parts reinforce one another in an organic way, and means and ends are connected in an efficient and satisfying way. The article served, by implication, to challenge the view that students were passive learners who, like animals, when provided with the right reinforcement (positive or negative), would learn whatever was required of them. Rather, when educated in this way, they would grow into adults who tolerate meaningless work and illegitimate power.

Dewey's Educational Writing

Dewey wrote many books and articles on education. Among the most important books are *School and Society* (1899/1990), *The Child and the Curriculum* (1902), *My Pedagogical Creed* (1897), *Democracy and Education* (1916), *Schools of Tomorrow* (1915, with Evelyn Dewey), and *Experience and Education* (1938). In addition, he wrote numerous articles on topics such as coeducation, intelligence tests, and vocational education. While the emphasis changed depending on the circumstance and the audience, the core message was remarkably consistent. Democracy requires a democratic education, and a democratic education must be predicated on encouraging a spirit of community and mutual inquiry.

For Dewey, education is the process by which immature individuals come to participate in the social consciousness of the human race. The process begins at birth and lasts a lifetime. Hence, for Dewey, education is both wider and deeper than formal schooling and includes more than simply the transmission of the vocational and life skills that one requires to get along. It also involves children coming to consciousness of the inherited skills of the group as they take on its aims as their own and identify with its history and its fate. Because education is nothing less than the process by which a community renews itself, it is also the concern of the entire community. This is the reason for Dewey's much-quoted statement found early in *School and Society*: "What the best and wisest parent wants for his own child, that must the community want for all of its children" (1899/1990, p. 7).

Dewey distinguished between informal education, which is the renewal of social life from one generation to another by social participation, and formal schooling, which is a specialized formal institution designed to regulate transmission for some purpose. Formal schools come into being when society grows in complexity and when many of its traditions are stored in written texts. The school, Dewey tells us, is an agency that is consciously designed to do what is done more informally in simpler forms of social life in the family and community.

Like most progressives, Dewey was a harsh critic of many of the practices of the schools of his time. Existing schools worked to prepare students for some future life while removing subjects like math, science, geography, and history from life experience. Skills were taught as, say, one might teach students how to hold and swing a hammer without ever telling them about nails. Subjects were presented as fixed points for the child to reach, disconnected from the child's own experience. In contrast, Dewey believed that with proper guidance school subjects

could be connected to the child's ongoing everyday experience, serving to inform and deepen it while transforming the child's interests and connecting it to that of the wider community. He believed that the time was ripe for a new progressive approach, such as was practiced in his own laboratory school at Chicago. In *Schools of Tomorrow* (1915), he and his daughter Evelyn provided a survey of a number of existing experimental schools that manifested some aspect of the progressive idea.

In *Democracy and Education* (1916), Dewey's most comprehensive work on education, he argued that education and democracy are inseparable. They are intermingled forms of associative living in which growth, individual and communal, is primary. Dewey proposed that education is the process of social renewal, where social skills are reproduced in each new generation and where each new generation comes to share in the interests of the group. Not all societies require formal education. Where the division of labor is simple and where work is carried on in the home, children learn the skills they need informally without systematic instruction, and through face-to-face encounters with adults, they come to identify the community's interest as their own.

Formal schooling becomes necessary as the division of labor intensifies, as work is separated from the home, and as skills become more and more complex. Yet as work becomes more complex, as children spend less time at home, and as the division of labor increases, the danger of communal disengagement becomes greater, and the connection between learning and doing threatens to become more distant. *Democracy and Education* serves as a roadmap for reconnecting learning and interest. It is also a roadmap for reconstructing the idea of democracy from a way of governing to a way of living. For Dewey, the goodness of a society is measured by how numerous are the connections between its members, and how open its members are to the formation of new interests and new associations.

Although Dewey often made the point that education was not preparation for some distant future, he did not mean that education should be indifferent to the capacity of the child to function later in life. He meant that preparation for life must not defer meaning to some future time. It must begin by taking into account the experiences that children bring to the school from their life outside. For Dewey, if the active nature of the child is to be preserved and her experience deepened, then the subject matter must connect in some organic way to the ongoing life experience of the child. The danger of strictly formal instruction is that the connection between the child's experience and the significance of the subject will be obscured, and in the process curiosity will die. The teacher's task is to provide an organic connection between the child's past and present experience and the subject that the child is expected to understand. The subject matter is to be used to link the child's present concerns to future enhanced powers, control, and enriched experience.

The School as a Form of Social Life and Renewal

There is some question whether Dewey changed his understanding of education over time. His early optimism that schools could be at the forefront of progressive change was developed at a time of increasing immigration and as the country was changing from a rural, farming society to an urban, industrial one. Moreover, *My Pedagogical Creed* (1897) was published before compulsory education to the age of 16 became universal, and while the country was still in transition. While he may never have lost hope that the school would become the principal agent of progressive social change, his last major work on education, *Experience and Education* (1938), was more critical of progressive educational practices as they had developed, and this book is often seen as attempting to correct the balance between emphasis on the interests of the child and concern with the importance of the subject matter. In point of fact, Dewey always acknowledged the importance of both, but at different times he would highlight one over the other. Hence, for example, both *The Child and the Curriculum* (1902) and *School and Society* (1899/1990) were written while Dewey was involved with the Laboratory School at the University of Chicago, and they describe and justify the work that went on in that school, with its child-centered approach to learning. After he left Chicago and the Lab School, Dewey continued to write about education and to develop his ideas about its relation to democracy, but with greater concern for its implication for the future of a democratic nation. Certainly there were many changes in emphasis as Dewey responded to the changing times, but the basic themes about the need to connect ends and means, subject matter and method, individual and society, work and play remain throughout.

The Influence of Dewey Today

After his death, Dewey's influence on American philosophy declined as philosophers looked to England and continental Europe for new inspiration. Progressive education suffered a similar fate as its ideas came under criticism as being responsible for America's purportedly weakened position in the Cold War. Many critics believed that progressive education was somehow inconsistent with high-level education in math, science, engineering, and foreign languages, areas thought most essential for Cold War conflict. In more recent years, Dewey and progressive educators have been criticized for setting in motion an educational system that weakens the country's economic prowess. Many of these claims rest on a caricature, but they have fueled much recent educational reform. This reform promotes greater standardization of schools, with more rigid discipline, standardized tests, and teacher accountability. Nevertheless, Dewey's influence, while more diffuse, still has considerable standing among educational theorists and can be found in movements as diverse as the open education movement of the 1970s and the feminist and critical pedagogy movements of today. Today, Dewey's ideas form the backbone, often unacknowledged, of the "loyal opposition" to government-directed education policy and serve as a reminder that education must serve more than the economy.

In philosophy, Dewey has also experienced a remarkable revival, in part due to the conversion of the analytic philosopher Richard Rorty to Dewey's brand of pragmatism, as well as the development by the logician Hilary Putnam of the pragmatic grounding of much of his own work. In addition, the continuing work of the Dewey Center at Southern Illinois University in Carbondale continues to maintain the Dewey legacy by maintaining his papers and supporting high-quality Dewey scholarship. Similar centers devoted to Dewey's work can also be found in other parts of the world, and every year conferences are held on pragmatism and on Dewey in a number of different countries. The title of *The European Journal of Pragmatism and American Philosophy* is an indication that Dewey's ideas are still alive throughout the world.

Walter Feinberg

See also Addams, Jane; Democratic Theory of Education; James, William; Laboratory School, University of Chicago; Mead, George Herbert; Productive Labor and Occupations: From Dewey to Makarenko; Progressive Education and Its Critics; Spectator Theory of Knowledge

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DIALOGUE

Dialogue has been seen as a form of interpersonal communication that emphasizes the open exchange of ideas and mutual respect, and it has a long history in the context of education. Plato (ca. 437 BCE to ca. 347 BCE) is credited with systematizing the genre as a form of pedagogy in his philosophical writings. This entry explores the close connection between dialogue and education, beginning with normative views that hold up dialogue as a pedagogical ideal and continuing with a review of recent critiques of dialogue that point out some of its purported limitations as an approach to teaching, particularly in multicultural settings. The entry concludes with a discussion of the practice of dialogue, exploring issues such as silence, activist versus deliberative communication, and the challenge of fostering open, responsive communicative relations within educational settings.

The Normative Tradition

Largely through the legacy of Plato's philosophical dialogues, and the deference accorded to something called "the Socratic method," dialogue has come to hold a central place in Western views on education.

The idea behind the Socratic approach to dialogue, perhaps best exemplified in the *Meno*, is that a guided process of inquiry will secure a grasp of knowledge that is not dependent on the status of authority or tradition: that dialogue teaches how to think in a way that produces an autonomous, skeptical learner. To what extent we see Socrates consistently teach this way in the dialogues, whether this approach to teaching is properly considered a "method," and whether it is a single unified method have all come into question. Nevertheless, a broad commitment to teaching through dialogical questioning has been derived from this canonical source.

More recently, the Brazilian educator Paulo Freire (1921–1997) added a new dimension to this tradition: the idea that dialogical teaching is also more democratic, more egalitarian, more humane, and more liberating (compared with more didactic and, for Freire, oppressive, "monological" modes of instruction). His ideas add to the epistemological weight Socrates gave to pedagogical dialogue an additional quality of political and ethical obligation, namely, that a teacher committed to progressive values *must* rely on dialogical methods.

The Critical Tradition

This normative stance toward dialogue has come under criticism from the feminist, poststructural, and postcolonial perspectives. Perhaps the most influential of these criticisms has come from Elizabeth Ellsworth (1989, 1997). The central issue raised by her work can be described as interrogating the *unconscious* of dialogue. The aim is to look beneath the surface of overt meanings and expressed intentions, to examine what is *not* being acknowledged or talked about. The danger of dialogue, which represents itself as an open conversation in which anyone can speak and any topic can be broached, is that certain people may not be speaking, certain things may not be spoken—or may not even be speakable in the terms tacitly valorized by the dialogue. Precisely because the surface level of the engagement *is* so apparently reasonable, inclusive, and well intentioned, what gets left out, or who gets left out, remains not only hidden but is subtly denigrated. If you cannot (or will not) express yourself in this manner, the fault lies with you. In pointing out what is *not* open about dialogue, Ellsworth and other critics want to reveal the reverse side of ostensibly "inclusive" educational practices, such as dialogue, to expose what is, in practice, *exclusive* about them.

Alison Jones (1999, 2004) highlights a related problem of dialogue in contexts of cultural difference. The *desire for dialogue*, as she puts it, can carry its own kinds of coercive influence. When people from different backgrounds try to discuss their experiences and differences—as often happens in multicultural classrooms—they are put in asymmetrical positions of risk and self-disclosure. Who are these conversations for, and whom do they benefit? When multicultural educators talk about the virtues of cross-cultural understanding, this is tilted almost always in the direction of the supposed benefits of dominant groups coming to better understand members of nondominant groups. Jones challenges this aspiration. For one thing, members of nondominant groups often have to expend much more time and effort explaining themselves to those who belong to dominant groups than vice versa; indeed, members of nondominant groups may already understand a great deal about the dominant culture. There can even be a kind of voyeurism: "Dialogue and recognition of difference turn out to be access for dominant groups to the thoughts, cultures, lives of others." For Jones (2004),

> the desire for the embodied other . . . may also be a desire for redemption, or forgiveness, on behalf of the white students. . . . The dominant group seeks its *own* inclusion by being rescued from its inability to hear the voices of the marginalized. (pp. 64–65)

In such cases, Jones says, members of nondominant groups may hold back from participating in the conversation, remaining silent as a strategy of self-protection or even seeking to withdraw from the common classroom space entirely.

The Practice of Dialogue

Standing back from these particular criticisms, what has occurred in the educational literature is a move away from an idealized, normative conception of dialogue to a cultural politics of dialogue; dialogue is neither a good nor a bad thing in itself, and the decision about whether to teach with dialogue, when, and with whom needs to be made within a broader analysis of power, identity, and purpose. We think of the educational context as a generally altruistic one, devoted to promoting freedom, the open expression and exploration of ideas, and personal as well as group development and advancement—for all participants. But when these matters are viewed within a recognition of diverse styles of communication,

diverse identities, and, most of all, diverse political interests and purposes, good intentions derived from even the most progressive sentiments no longer suffice. Suddenly, dialogue reappears as a potentially quite restrictive, possibly even hegemonic norm and constraint. The educational purposes of promoting mutual understanding, tolerance, and empathy, while clearly of value, may not be the overriding ideal in all circumstances. The interests of all students may not be servable all at the same time. One's own self-image as a teacher, with one's own identity, interests, and purposes, may come into question as well.

Several specific problems, then, arise for educators: First, how can a normative framework for dialogue accommodate diverse cultural styles of expression? If one's goal is to encourage participation in a joint communicative process of discovery, it seems contradictory to insist that this must occur on one's own terms. If one's goal is to encourage cross-cultural understanding and empathy, it seems contradictory to insist that others must adopt one's own preferred discursive styles (or even one's own language). On the other hand, without some shared basis of communicative norms, how can any engagement take place at all?

Second, as Iris Young (2002) has pointed out, there is a difference between *deliberative* and *activist* modes of communication. Deliberative communication is oriented toward reasonable engagement, negotiation, compromise, and a fair exploration of all sides of an issue. Activist communication is about making a point that needs to be made, even if it is rude, disruptive, and impolite. The goal is not to persuade but to challenge, to confront the other. To insist that such activist utterances be converted into the careful, balanced language and the reasonable tone of a deliberative engagement is to miss what is important about utterances such as speech acts; it is to defuse them of part of their purpose and impact. In pedagogical dialogue, the reasonable and deliberative mode is for obvious and mostly legitimate reasons privileged; the activist mode is not oriented toward the aspirations of understanding and consensus, which dialogue generally pursues. But even in pedagogical settings, these sorts of activist challenges, between student and teacher or between students, have a place and a potential educational value.

Third, returning to Alison Jones's point, when is it legitimate for educators to allow some groups to withdraw from dialogue with others, to segregate into culturally similar and like-minded groups in which they do not have to encounter others? She argues for the creation of separate spaces in the classroom where members of particular groups can speak safely with others who share common experiences and backgrounds, where they do not have to explain themselves to others or reeducate them at the cost of their own effort and trouble. Educators often invoke goals like "dialogue *across* differences," which assume that the purpose of dialogue is to achieve connections of understanding and agreement—which may be worthy goals in many educational settings but cannot be taken as always unproblematic, even when they spring from good intentions (see Burbules & Rice, 1991).

Fourth, as Huey-li Li (2004) and others have pointed out, there is the issue of silence. Many critics regard the issue of silence either through the lens of asymmetrical power (groups or individuals are "silenced") or as a pointed refusal to participate, as active withdrawal from participation. Li wants to argue instead for the *expressive* possibilities of silence—it is not the opposite of speech, but rather, silence and speech form a "continuum." There are different kinds of silence, she points out, and those truly interested in cross-cultural understanding need to take on the burden of hearing what these different kinds of silence might mean. Forcing others to speak, to articulate what they think and feel in explicit words, is in Li's phrase "silencing silence," and she means this as a rebuke to well-intended teachers who believe that they are serving the interests of those groups by "privileging their voices" or continually pressing them to speak up and contribute. Silences are of different types and mean different things. As Li makes it clear, assaying silence and deciding whether it is educationally pernicious or beneficial requires attention to numerous cultural and situational specifics, and it cannot be diagnosed with broad, dichotomous categories (either one "has voice" or one "is silenced"). A significant question here, then, is this: How can a teacher know *what kind* of silence she or he is dealing with? *Whose* silence is a cause for concern, and why? Li's central point is that our tendency to denigrate silence, or to see it automatically as a sign of some deeper problem, overly valorizes the chatty dimensions of participation; and in this sense, it poses a substantial challenge to the ways we think about dialogue.

The critical analyses presented here regard the development of dialogical relations as itself a political project, one in which there may be good reasons to resist or question even the terms and conditions

of dialogue itself. But at the same time, politics is always *for* something, and it is difficult to imagine any conception of social justice that does not at some level seek dialogue and more open, responsive communicative relations as an end point—even if in the short term encouraging dialogue is not the best way to pursue it. Hence, even challenges to dialogue must entail, at some level, a commitment to dialogue itself.

Nicholas C. Burbules

See also Freire, Paulo: *Pedagogy of the Oppressed* and Critical Pedagogy; Socrates and Socratic Dialogue

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Dilthey, Wilhelm

See Hermeneutics

Disciplinarity

Disciplinarity, with the contested forms inter-, cross-, and multi-, is the approach to an academic field of knowledge through disciplines, which are conceptualized as being discrete, bounded, academic traditions of knowledge creation and knowledge dissemination. The term *subject*, also *knowledge field*, is used instead of *discipline* when the subject area is defined for or focused on a purpose (e.g., in compulsory education syllabuses, for projects addressing a problem requiring multiple approaches, and in teaching and the scholarship of teaching). This entry discusses the history of disciplinarity, types of discipline-based knowledge, and challenges to the boundaries of disciplines and the disciplinary structure of higher education.

With roots in the medieval university, maintained by prestigious learned societies, and strengthened by research funding and evaluations based on peer review, the appellation "discipline" carries connotations of prestige, tradition, mastery of knowledge and also of students, and, more darkly, control. A discipline, as a disciplined community of disciples, thus came to be distinguished from a subject area, which, rather, is often regarded as a field of study open to all and to any approach. A discipline is more often seen as working within and controlling what Kuhn called a "paradigm"—setting the research agenda, the appropriate methods, and the personnel who are equipped to work within it.

Discipline-based knowledge has been categorized as "hard" or "soft"—where "hard" means having tightly agreed-on theory and methodology, and a rule- and law-based research agenda (e.g., mathematics), and "soft" means tolerance of multiple approaches, methodologies, and models of argument, explanation, and evidence (e.g., the humanities). It has also been categorized as "pure" or "applied," where "pure" is discipline driven and shaped by its research agenda (e.g., physics) and "applied" is one where accreditation and purpose rest outside the university (as is the case with medicine). So education and its contributing disciplines, such as educational psychology and sociology, are "soft–applied," and philosophy is "soft–pure."

The sociolinguist Bernstein influentially divided knowledge processes into three sites: (1) of *production*, where new knowledge is constructed and positioned (e.g., in disciplinary research); (2) of *recontextualization*, where new knowledge discourses are appropriated and re-embedded to become educational knowledge (forming the basis of curricula and assessment); and (3) of *reproduction*, the classroom where teaching and learning take place. Such a model underlies calls for research-informed or research-based teaching.

Disciplines also have been studied as intellectual "tribes": as communities of academics, identified by citation and cocitation practices in research journals, concerned with researching and teaching historically distinct subject areas and developing, validating, peer-reviewing, and disseminating discrete bodies of knowledge.

Further light also has been thrown on disciplines by analyzing the different knowledge-making processes and academic literacy practices displayed in their top journals, for example, by analyzing arguments, the use of evidence, the authorities cited, and so on. Such academic literacies and discourse studies are concerned to render transparent the disciplinary rules (rhetorical, epistemological, stylistic, and presentational) that those seeking to enter must follow. Thus, academic literacies are important for research students who must conform, but their status is contested by those who see education as a process of equipping students to transform knowledge and who see disciplines as potentially transformational rather than merely as transmitters of knowledge: The "writing in the disciplines" movement, for example, influentially argued that the discipline is made by each writer of that discipline, professor and student alike; from this perspective, a discipline is viewed not as an institution but as a knowledge-creating community, and academic writing is regarded as knowledge- and meaning making, not merely a knowledge-demonstrating and -disseminating process.

Disciplinary studies also generate argument about the state and status of particular areas of knowledge, for example, in cases where a discipline crosses boundaries or encompasses very different knowledge-making traditions. Area, cultural, gender, and many other studies cover specific disciplinary knowledge areas but may encompass a variety of disciplinary approaches, including "pure" and "applied," experimental and theoretical, and convergent and divergent methodologies.

Challenges to the hegemony of disciplines come from those funding research on deep or so-called wicked problems, where innovative thinking is required and where inter- and cross-disciplinary approaches are favored. (All these are contested terms; *interdisciplinarity* can usefully be seen as combining and using research methods, forms of inquiry, and agenda from any discipline; *multidisciplinarity* is teamwork drawing on researchers from several disciplines; and *cross-disciplinarity* is applying the methods or agenda of one discipline to the knowledge base of another.)

Finally, there are challenges to the disciplinary structure of higher education, from those who see the university as a site of transformation rather than of transmission of academic knowledge and from educationalists concerned with Freirian, critical, or other "liberating" pedagogies. Such scholars want to move away from disciplinary organization, which they see as producing a constricting and a reproducing environment. There are two radical education-based disciplinary models that have emerged within the field of higher education and have implications for both disciplinary epistemology and pedagogy: "threshold concepts and troublesome knowledge" and "signature pedagogies." The first challenges academics within disciplines to build the curriculum around the sequential comprehension of threshold concepts (these not only are core concepts, but they are ones that challenge contemporary viewpoints and thus can be disturbing to the student, who might prefer to stay with his or her existing disciplinary paradigm). The second challenges academics to define their discipline as a set of professional practices, similar, for example, to law and medicine, which are defined not by subject content but by the core practice, which must be taught and in which students must qualify. Such a focus on disciplinary processes—writing, teaching, learning, assessment—models those who work within a discipline as sharing a common craft, as forming a "community of practice." (This is a model from cognitive anthropology—an approach within cultural anthropology that uses the methods and theories of the cognitive sciences—that returns academics to their medieval origin as a "mastery," a *maiestri*—a guild of masters.)

Conclusion

The contemporary field of educational practice tends to deal with disciplines as academic areas and academic communities held together by common interests and processes (e.g., teaching and setting assessment criteria, learning outcomes, curricular agenda, and priorities) rather than by a common epistemology. Disciplines are seen as academic research communities with gatekeeping and peer-review duties and responsibilities; and academic identity is seen as rooted in and fostered, or constricted and enervated, by disciplinarity.

But as knowledge has become deregulated, with investment in open science and with knowledge being produced outside the university, academic

identity faces the risk of becoming more fragmented. Perhaps this will force the focus to shift back to disciplines as academic homes, as communities of academic, pedagogic, and epistemological practice.

Jan Parker

See also Communities of Learners; *Deschooling Society*: Ivan Illich; Knowledge, Structure of: From Aristotle to Bruner and Hirst; Kuhn, Thomas S.

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Discourse Analysis

The study of discourse has a long and deep history and can be traced to language philosophers and social theorists such as Mikhail Bakhtin, W. E. B. Du Bois, Michel Pêcheux, and Ludwig Wittgenstein. Both a theory and a method, discourse analysis in educational research grew out of the traditions of ethnography of communication and interactional sociolinguistics, and the study of social signs and signification (semiotics). Researchers in these traditions are concerned with how discourse (defined as language and other forms of social information or meaning transmission) is used in context to accomplish educational practices. This entry discusses the varieties of discourse analysis and how they are used in education to study the way social patterns in society are reflected within schools.

There has been much scholarship in educational research that includes discourse analysis; indeed, teaching and learning are communicative events, and it stands to reason that discourse analysis would be useful to analyze the ways in which texts, talk, and other semiotic interactions are constructed across time and contexts. Discourse studies and educational research are also both traditions that address problems through a range of theoretical perspectives. Many of the problems that are addressed have to do with inequality and power. Discourse analysis provides the conceptual and methodological tools for addressing the complexity of educational practices in an increasingly globalized world.

Discourse analysis has been set to work within the field of education on a variety of topics, from educational policy, teacher education, and literacy education to science, math and technology education, educational media, language policies, and academic discourses. Discourse analysis takes as its object of study any meaning-making mode (image, speech, gestures, writing, three-dimensional forms) and draws on analytic methods to understand the relationships between discourse processes and social practices. And while various traditions have different orientations, they have similar views about discourse. That is, discourse is viewed as a multimodal social practice, situated within social, historical, and political contexts. Discourse both reflects and constructs the social world and cannot be restricted to a description of grammatical forms stripped from the function and contexts in which it belongs. Discourse analysis attends to the discursive practices that constitute communicative events as well as the larger systems of meaning—or the social practices—that are constructed, transformed, or resisted through these practices.

There are many varieties of discourse analysis, including narrative analysis, building tasks analysis, public-consultative discourse analysis, critical discourse analysis, positive discourse analysis, multimodal discourse analysis, cognitive approaches to discourse analysis, and so on. To explore some of the diversity that exists within discourse studies, the next section presents some of the most common approaches to discourse analysis in educational research.

Narrative Analysis

Jerome Bruner reminds us that we narrate our experiences, choosing protagonists, listeners, and readers and situating ourselves at the nexus of the past, present, and future. Narratives can be oral or written and can take the form of a variety of genres, such as letters, legal testimony, dance, and memoir. Approaches to narrative analysis are concerned with how, through narratives, people represent their goals, stances, and ideas and, in turn, construct the world. Catherine Kohler Riessman suggests that there are four models of narrative analysis: (1) thematic analyses, (2) structural analyses, (3) interactional analyses, and (4) performative analyses.

A thematic analysis includes a focus on the content of the narrative. This approach is often useful to examine the variation between narratives among a group of narratives about the same topic. The second model is a structural analysis, which has a stronger focus on how the story is told, rather than what is told. Examples of structural analysis vary depending on the form of the narrative. For example, many narratives fit a temporal story form and can be analyzed by William Labov and Joshua Waletsky's method of identifying clauses and their functions, but others do not fit this temporal form and need different frameworks based on how the narrative is constructed through the linguistic choices of the teller. An interactional analysis focuses on the interaction between the teller and the listener, and along with theme and structure, the collaborative nature of the telling is also a point of interest to the analyst. An example of this approach is found in Stanton Wortham's approach to narrative analysis. Finally, performative analysis is an approach that sees the interactional nature of narrative tellings as a performance of identity. The objective of narrative theorists is to understand how the properties of narratives are used (or function) in the creation of self and identity.

The Building Tasks Analysis

James Gee's tradition of discourse analysis, referred to as a "building tasks" analysis, draws on American anthropological linguistics, social discourse theories, and cognitive psychology. Arguably, this approach popularized discourse analysis in educational research more than any other tradition. Gee introduced the distinction between "discourse," with a lowercase *d*, or language bits, and "Discourse," with an upper case *D*, or the sociopolitical uses of language. He brings this theory to life through five related theoretical frames and a set of building tasks that illustrate how language ties to the social world.

The theoretical frameworks are (a) *situated meanings*, (b) *cultural/discourse models*, (c) *social languages*, (d) *intertextuality*, and (e) *figured worlds*. These are the social and cultural frameworks for understanding how people use language to accomplish social goals. *Situated meanings* evokes Bakhtin's notion of genres and dialogues and refers to how people make words mean something—and that meaning has historical significance and is connected to other meanings. *Cultural/discourse models* are the storylines, narratives, and explanatory frameworks that circulate in a society. *Social languages* refer to grammar and the function of language as it allows us to express socially situated identities and relationships. *Intertextuality* refers to how texts are drawn on and rearticulated within or across social practices. And *figured worlds* are the kinds of mental models that shape how people make sense of the world.

The building tasks are tools that bring the theoretical frameworks to life and include (a) *significance*, (b) *activities*, (c) *identities*, (d) *relationships*, (e) *politics*, (f) *connections*, (g) *sign systems*, and (h) *knowledge*. As people interact, they are building social relations, identities, activities, and knowledge with and through language. The building tasks are entry points that aid the analyst in constructing meaning from a network of discourse patterns. For example, *significance* indicates the ways we use language to assign meanings to things and people and make them relevant to the conversation. *Relationships* refer to how people interact with other people, texts, or Discourses. *Identities* are the ways in which language is used to create roles for particular people and make those roles important in the social space of the interaction. Each building task has a set of associated questions that guides the analyst. The discourse analyst sets out to understand how linguistic resources are used to accomplish social goals.

Critical Discourse Analysis

Critical discourse analysis focuses on how discourses are constructed as well as how they enact social relationships and social identities, with particular attention paid to dominance/oppression and liberation/justice. Some varieties of critical discourse analysis are rooted in Michael Halliday's systemic functional linguistics. This is a theory of language

that operates on the understanding that meanings are always being invented (vs. being inherited) and that people are actively creating meanings and have choices among representational systems from which to make meanings. According to systemic functional linguistics, as people create meanings, they draw on textual, ideational, and interpersonal resources. The textual organizes discourse into recognizable patterns or social practices. The ideational enacts ideas about the world from a particular perspective. The interpersonal enacts experiences of reality. Norman Fairclough's translation of these resources is genre, discourse, and style, or "ways of interacting," "ways of representing," and "ways of being," respectively. This tripartite schema is used in educational research to study how power, privilege, liberation, and justice are represented in educational spaces. A new wave of scholarship called positive discourse analysis focuses on liberation, agency, and justice instead of domination and oppression.

Multimodal Discourse Analysis

Discourse analysis has been critiqued for its emphasis on written and spoken texts as the source of meaning, often to the neglect of meanings made in other modalities. In many cases, the reach of language is insufficient for the representational work that needs to be accomplished. Teaching and learning are multimodal activities as people draw on an array of modalities, including verbal conversation, gestures, emotions, movement, rhythm and music, and composition, to make meaning. Charles S. Peirce classified signs according to the characteristic of the relation that they have to what they represent. Modes might be iconic, indexical, or symbolic. Gunther Kress views discourse as constructed through signs and symbols and as a form of social practice. The goal of multimodal discourse analysis is to describe, interpret, and explain the ways in which meaning is constructed and understood through multimodality. Multimodal discourse analysis examines the form and function of discourse and action to understand how designers (meaning makers) position themselves and are positioned by others.

New and Lingering Criticisms

Discourse analysis has blossomed in educational research. Some of the common critiques of discourse analysis are listed below. It should be noted that educational researchers using discourse analysis have addressed some of the long-standing critiques about discourse analysis:

- There is an unequal balance between social theory and method.
- Analysis tends to be decontextualized, not attending to discourse histories and trajectories.
- Social ideologies are read onto data rather than revealed through the data.
- There is an overemphasis on domination and oppression versus liberation and freedom.
- There has been little attention to learning and the nonlinguistic aspects of interaction, such as emotions and activity.

These criticisms might be seen as a point of departure for continued scholarship in the field.

Rebecca Rogers

See also Bruner, Jerome; Narrative Research; Semiotics

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Discovery Learning: Pros and Cons

Many names have been given to the methods of teaching that emphasize teaching and learning practices that actively engage students in, and help them make sense of, what they are learning; but *discovery learning* is the term that most often is used to describe such methods. The foundations of discovery learning can be traced back to the work of John Dewey about a century ago, Lev Vygotsky in the 1930s, and Jean Piaget in the 1950s; and this approach to learning

looms large in the contemporary constructivist movement. Both Dewey and Vygotsky postulated that children learned best by actively constructing their knowledge through social interaction rather than merely absorbing ideas directly. Piaget proposed that optimal learning occurs when an opposing viewpoint challenges the previous knowledge of an individual. In the 1960s, Jerome Bruner (1967) contributed work that supported the benefits of discovery learning; he found that students understood concepts better and remembered them longer when they discovered these concepts for themselves. This entry discusses what takes place in discovery learning, the ideas behind it, evidence of its effectiveness, and the advantages and disadvantages of the approach.

While the term *discovery learning* is often used as an "umbrella" term to refer to teaching and learning methods such as inquiry-based, problem-based, Socratic, or Moore method instruction, it is not intended to capture all of the characteristic features of the individual frameworks. This is also not to imply that each of these methods is equivalent. Discovery learning, however, does embody the commonality inherent to these methods in that discovery learning emphasizes a student-centered approach to instruction that engages the learner in thinking deeply about the subject under investigation. Discovery learning can be defined as a teaching and learning model in which students learn to recognize a problem, search for information relevant to the problem, develop a solution strategy, and logically justify the strategy. Five characteristics are identified by the National Academy of Sciences as essential to discovery learning models (in the sciences). It is essential that the student learner (1) be engaged by scientifically oriented questions, (2) give priority to evidence, (3) formulate explanations from evidence, (4) evaluate explanations in light of alternative explanations, and (5) communicate and justify the proposed explanations (Committee on Development of an Addendum to the National Science Education Foundation Standards on Scientific Inquiry, 2000, p. 25).

Discovery learning can be done as an individual exercise or, more commonly, as a collaborative effort in which students are immersed in a community of practice and solve problems together. In discovery learning, the instructor acts as a facilitator or mentor to guide and pace student learning and interactions. Focus is placed on students' ideas and contributions to their own learning—the model recognizes students as active learners or collaborators, developing a deep and connected understanding of their subject, as opposed to a more passive student role as receivers of knowledge transferred to them from their instructors. The instructor also creates a classroom environment conducive to the discovery learning process by modeling what behavior is appropriate and expected as students work toward devising solutions to problems.

Thus, instructors who employ discovery-based methods have created classrooms that appear markedly different from those of their teaching colleagues (Laursen, Hassi, Hunter, Crane, & Kogan, 2010). Typically, in a classroom where discovery learning is taking place, students are involved in creating knowledge together. They are immersed in their subject, creating hypotheses or conjectures, collaborating with peers, and discussing and challenging one another's ideas. While the instructor is always available to guide and to facilitate, students are empowered to discover and to grow in knowledge either independently or together. In fact, at secondary and university undergraduate levels, discovery learning has been shown to be effective in developing students' problem-solving and communication skills (Chin, Lin, & Wang, 2009).

An essential elucidation of the ideas underlying methods such as discovery learning is found in the educational research report *How People Learn* (National Research Council, 2000, p. 68). This report promotes the concept that effective teaching strategies should incorporate some levels of metacognitive activities. These strategies are related to discovery learning in that they involve students questioning their own knowledge and understanding along with scrutinizing other students' conjectures, ideas, and solutions. Evaluating and monitoring self-progress is also a desired characteristic among students. Discovery-based methods involve the learner as an active participant in her learning, thus fostering the enhancement of metacognition skills.

Evidence in Support of Discovery Learning

Researchers investigating mathematics courses at the undergraduate level have noted that while students enrolled in a discovery-based differential equations class were better at solving conceptually oriented problems, there was no statistical difference between the two groups of students on procedurally oriented problems, in spite of the fact that this was entirely the focus of the lessons in the traditional classes. A supplemental study one year later returned similar results. This indicated that

a discovery-based learning experience might have enduring effects on students' conceptual understanding (Kwon, Allen, & Rasmussen, 2005). This study is pivotal in indicating that while one might not initially perceive a difference between traditional and discovery-based students' performance on procedural questions, conceptual understanding could still differ between the two groups. Mark Daniels (2008) also found similar results with using discovery-based methods in a study of undergraduate Calculus I and II classes designed specifically for preservice secondary mathematics teachers.

A number of other studies showed increased mathematical content knowledge related to the use of discovery-based methods. It was found that reading, in conjunction with writing and talking, can serve to further students' understanding of mathematical ideas through inquiry-based activities. In addition, a six-month study of teaching and learning mathematics in a classroom of fifth-grade students provided evidence that inquiry-based teaching methods led students to reason more in the way professional mathematicians do when problem solving (Lampert, 1990).

One of the largest studies exploring discovery-based teaching methods was conducted in 62 introductory undergraduate physics courses and involved more than 6,000 students. The study concluded that students who were taught using discovery-based interactive teaching methods had an average course knowledge gain that was almost two standard deviations above that of students who were taught using traditional methods (Hake, 1998). Similar results were obtained in an investigation of a discovery-based physics curriculum, where 6th- through 9th-grade students who were taught using discovery methods outperformed 11th- and 12th-grade students in traditional classes on an assessment that measured knowledge of physics curriculum (White & Frederiksen, 1998).

Last, a comprehensive study of the effects of discovery learning practices on undergraduate students enrolled in mathematics courses at four universities found that while the changes in beliefs, motivations, and strategies were modest for students in both the discovery and the nondiscovery-based classes, evidence suggested that the two types of courses had opposite effects on students in relation to confidence and collaboration. While students in the discovery classrooms displayed mostly positive effects in these two areas, the changes in the nondiscovery-based courses were negative in effect.

Discovery Learning: Pros and Cons

While various authors indicate that discovery learning leads to increases in both student engagement and content relevance, some have pointed out that this teaching method is not for everyone. Thus, to conclude, a list of pros and cons of discovery learning is provided based on the existing literature.

Research on discovery learning claims the following advantages. Discovery learning

- promotes creative thinking;
- sees failure as a natural and, at times, essential step on the way to success;
- is engaging and motivational to the student learner;
- promotes the development of higher-level thinking skills;
- enhances the confidence of the learner in the learning process; and
- develops skills in students that are needed for the workforce, such as problem solving, communication, collaboration, and presentation skills.

Some researchers point out that not enough is known about what constitutes good discovery-learning practices. For example, debate about how much guidance should be offered by the instructor (as facilitator) to students is unanswered (Kirschner, Sweller, & Clark, 2006). Some report that inquiry- or discovery-based design models are not easy to implement, since student learners need to quickly develop or possess a number of cognitive skills and must be inherently motivated to learn the material under investigation (Jong & Joolingen, 1998). A lack of such skills could result in ineffective student performance when subjected to discovery methods. In this regard, some of the representative criticisms of discovery learning practices are as follows:

- Not all learners embrace discovery learning as an effective or pleasant way to learn.
- Some students become frustrated easily when subjected to discovery practices.
- Some students do not feel comfortable collaborating with others or with the prospect of presenting results in front of a class, as is often an expectation of discovery-based classes.
- Instructors may be reluctant to try discovery methods, fearing that student or administrator evaluations of the instructor's teaching may not be high.

Mark Daniels

See also Bruner, Jerome; Dewey, John; Learning, Theories of; Piaget, Jean; Radical Constructivism: Ernst von Glasersfeld; Vygotsky, Lev

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Distributed Cognition

The term *distributed cognition* was introduced by Edwin Hutchins and Tove Klausen (1998). The term refers to a general finding by Hutchins and others that it is useful to consider cognitive accomplishments as achievements of systems that include individual persons interacting with each other and with other subsystems. An analysis that assumes distributed cognition identifies something that is accomplished by a system and develops an explanation of how that accomplishment is achieved. Such an analysis can focus on information that is used and/or constructed in the activity that results in the accomplishment. By focusing on information, the analysis would be considered a *cognitive* analysis. By focusing on a system with multiple sources and sites of processing information, the cognition that is analyzed is a *distributed cognition.* This entry describes distributed cognition, examines some examples, discusses the idea that there are different levels of distributed cognition, and explains the classroom implications of distributed cognition.

Analyses that assume distributed cognition are part of a program of research, including theoretical development, that stands in contrast to the standard theory. For example, work by Walter Kintsch and Teun A. van Dijk (1978) and Allen Newell and Herbert A. Simon (1972) treated cognition as individual processes that occur in individuals' minds. Other branches of this broad development include embodied cognition, as described by Raymond Gibbs (2006) and Mark Johnson (1987) and presaged by John Dewey (1916, chap. 11); cultural-historical activity theory, as presented by Yrjö Engeström (1999); and situative theory, in the work of James

G. Greeno (2011). Each of these developments expands the focus of analyses of cognition beyond the processes that occur in the minds of individuals. Embodied cognition includes bodily movements and gestures as inherent components of thought and communication; activity theory and situative theory adopt *activity systems* (systems that can include multiple individual persons along with other material and informational resources) rather than individual mental systems as the primary focus of analysis.

Ship-Positioning System as Distributed Cognition

As an example, consider an analysis by Hutchins (1995) of the process of fixing the position at sea of a naval ship. This process was carried out at least once every hour in the open sea and at least once every 15 minutes when the ship was within sight of land. The purpose of taking a fix was to construct information about where the ship was and where it was headed. The information was represented as a region on a chart that resulted from drawing three straight lines that intersected, forming a triangle, which probably contained a point that corresponded to the position of the ship, and a line segment that represented the path of the ship in the next interval of time assuming its current speed and heading.

The process began when an officer, the bearing timer-recorder, announced that it was time to take a fix. Then, the seamen on the deck of the ship used instruments called alidades to sight prespecified landmarks. The instrument, aimed at a landmark, provided a numerical representation of the direction from the ship to the landmark. The seaman reported that representation, using a telephone line, to the officers in the navigation room. An officer, called the plotter, had a chart that represented the geography of the general location of the ship, including the locations of the landmarks. That officer drew a line, called a line of position, corresponding to the direction from each landmark to the ship. If the readings were all exactly accurate, the three lines of position would intersect at a point, which would represent the ship's location. In practice, the three lines intersected to form a triangle, a region of points that probably included a representation of the ship's position. If the triangle was small enough, the fix was considered to be satisfactory.

Hutchins's analysis of this system used the information processing framework of analyzing cognition. Overall, the system constructed symbols (numerals and lines on the chart) that were understood to provide an approximate representation of the ship's position in a spatial environment at the moment when the bearing timer-recorder officer declared that it was time to fix the ship's position, and the path the ship would take in the next interval of time if its course was maintained without change. The process included obtaining information through interaction with objects in the world—subsystems that included a seaman, an alidade, a landmark, a chart, and so forth.

By focusing on the construction, communication, and transformation of *information*, Hutchins's analysis is an example of an analysis of *cognition*. There were several sources of information and sites of knowledge that supported the representation and transformation of information; therefore, the system is an example of *distributed cognition*. By identifying the information processing components of the system and their functions in the overall process of constructing a representation of the ship's position and future path, and by showing how the activities of the components interacted, Hutchins provided an explanation in the form of an information processing *mechanism*.

Other Examples of Distributed Cognition

Hutchins and Klausen (1998) introduced the term *distributed cognition* to characterize their findings in an analysis of an incident in which the members of an airplane cockpit crew requested and succeeded in obtaining clearance to change their altitude. Different members of the crew contributed different items of information that collectively represented the conditions that needed to be met for a change in altitude to be justified and approved. Hutchins concluded that this exemplified a type of situation where the knowledge base needed for success in an activity is distributed across the participants in an activity system.

An earlier example of an analysis of distributed cognition was provided by Jean Lave, Michael Murtaugh, and Olivia de la Rocha (1984), who conducted an ethnographic analysis of some individuals as they were shopping for groceries. A cognitive process that is prevalent in shopping is decision making, when a person chooses which of several packages to buy. Lave contrasted her observations of shoppers deciding between alternatives with the then standard cognitive analyses, treating making a decision as a kind of problem solving. She concluded

that the cognitive theory of problem solving could not explain the problem-solving processes of the people she observed. The standard cognitive account assumed that a problem solver carries out a search in a problem space that remains stable as the problem solver seeks a series of problem-solving actions that achieves the goal. Instead, the problem-solving that Lave observed involved dynamic interactions of shoppers with the material and information in the store, so that the goal of the problem and the means of satisfying it were co-constituted by the shopper and the features of the environment.

Another example was provided by Sally Jacoby and Patrick Gonzales (1991), who studied the activities of a physics laboratory group ethnographically. Members of a research group require expertise to develop innovative research, and Jacoby and Gonzales focused their analysis on contributions to the physics group's activity that reflected expertise by members of the group. They found that expertise was distributed between different participants, with one participant (the senior physicist who was the group's director) providing special expertise regarding theoretical issues and another participant (a postdoctoral researcher) providing special expertise regarding the experimental literature. Jacoby and Gonzales's analysis showed ways in which participation in the group was organized to recognize and utilize expertise, and it showed that positioning that recognized expertise did not reside consistently with a single participant but shifted appropriately between participants, supporting contributions that provided the group with beneficial information and interpretations.

Toward a Pluralism of Theories at Different Levels

Analyses of distributed cognition are alternatives to analyses of cognition as a process of individual mental activity. Scientists often strive to develop a single best theory of the phenomena they study, and this tendency easily leads researchers to treat theories of individual cognition and theories of distributed cognition as competitors. An alternative, however, is to consider theories of individual cognition and theories of cognition in activity systems as being focused at different levels and to treat them as complementary. This idea has been discussed extensively by Sandra Mitchell (2003), who argued that theoretical development, especially in biology, can be understood well by considering it as *integrative pluralism*. If we adopt this view, we can consider theories of individual cognition, as they are developed in cognitive science, and theories of distributed cognition, as they are developed in studies of activity systems, usually with multiple participants, as being about the same processes but focused at different levels, treating cognition as an aspect of individual mental activity or as an aspect of processes of activity systems. There should be competitive theoretical development at each of the levels, and it is an advantage for a theory at either level to contribute to integration between theories at the two levels.

Classroom Implications of Distributed Cognition

When we consider cognition as a distributed process, we can shift the way we consider processes of teaching and learning in classrooms. Instead of only considering students as recipients of the knowledge and understanding provided by a teacher and other sources, including textbooks, it is also natural to consider knowledge and understanding as being co-constructed by the teacher, students, and other resources that the teacher and the students utilize.

When teachers and students interact, they can organize their interaction in several ways. In a common pattern, the teacher speaks, and the students listen and occasionally ask a question for clarification. In another pattern, the teacher poses a broad question or an open-ended problem and leads or orchestrates a discussion in which the students propose ideas, expand on them or question each other, and resolve differences. Theoretically, the idea of distributed cognition applies to any of the ways teachers and students organize their interactions. The patterns of information that are constructed in the classroom interaction are understood, in this view, as being co-constructed in the joint actions of the several participants.

The way participation is organized in a classroom affects what students learn. As Lave and Wenger emphasized, learning by an individual in a community of practice can be a transition from being a peripheral participant to fuller participation. When students are positioned in classroom activity as contributors to advancing the class's understanding and knowledge, and their contributions are framed as having general significance, they can learn to act in ways that are general and generative (Boaler, 2002; Engle, 2006; Engle, Nguyen, & Mendelson, 2011).

James G. Greeno

See also Cognitive Revolution and Information Processing Perspectives; Dewey, John

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Diversity

Social diversity—with respect to race, ethnicity, religion, nationality, sexual orientation, gender, social class, and various dimensions of culture—is important for a number of reasons. First, in a diverse society, it is highly likely that social policies, reforms, educational interventions, and the like will affect different groups differently—an intervention that benefits some groups may harm others. In this context, a second set of issues arises, namely, the contentious matters of social justice, equality of opportunity, and personal and community rights. Third, even social interaction in workplaces, organizations, and institutions is shaped by diversity—members of some groups are at a disadvantage when dealing, for example, with banks, school administrators, the police, or persons above or below them in an organizational hierarchy. Furthermore, the specific details concerning diversity and its effects vary around the world.

Given the complexity of the issues raised by diversity, this entry must of necessity limit itself. It discusses some of the contentious issues within the confines of an illustrative case study, namely, the situation in the United States, where demographic changes are making racial and ethnic diversity especially significant in the field of higher education.

On the basis of the 2010 census, the U.S. Census Bureau projects that the United States will be a "minority–majority" country by 2043, with non-Hispanic Whites making up less than half of the total population. For children under 18, it is projected that non-Hispanic Whites will be a minority by 2023. The pipeline for increased racial/ethnic diversity is already in place, even without taking into account immigration, which will also continue to produce greater diversity. For the first time in its

modern history, more non-White than White babies were born in the United States in 2011.

One of the effects of this increased racial/ethnic diversification of the country will be on higher education institutions. It is estimated that by 2050, the racial/ethnic composition of community colleges will be more than half Latinos, a quarter Whites, slightly less than 10% African Americans, and 10% Asian-background students. Four-year public institutions will have slightly less than half Latinos, 8% African American students, 15% Asian-background students, and a third White students. Only in private four-year institutions will the majority of students be White (see the documentation in Lopez, 2006, p. 11).

One might ask, with these projections, why higher education institutions need to do anything to engage diversity educationally. Why is there a challenge of ensuring that students from different backgrounds in the United States and from other countries interact with each other? Won't such diverse interactions be a natural social consequence of the greater diversity that will exist on college/university campuses? The answer is "No," not if the patterns of racial/ethnic segregation that exist today continue and not if pupil assignment in K–12 continues to be based on neighborhood residency, as it is today. Unless residential segregation is markedly less than what it is today and unless students do not attend largely racially/ethnically homogeneous elementary and high schools, students will still come to college with little cross-racial/ethnic interaction. Even though students may see each other and even acknowledge some level of racial/ethnic and cultural difference, they likely will not know or understand each other in more than superficial ways.

The Controversial Role of Diversity

What increased racial/ethnic diversity means for higher education needs to be considered within long-standing debates about the impact of social diversity on the unity and disunity of institutions and politics. The ancient Greeks debated the impact of diversity on the capacity for democracy. Arlene Saxonhouse, in her book *Fear of Diversity* (1992), contrasts how Plato and Aristotle dealt with diversity. She argues that Plato conceived of a city-state in which unity and harmony would derive from a homogeneous citizenry, while Aristotle conceived of democratic unity as involving social relationships among citizens who hold diverse perspectives and whose interactions are governed by freedom and the rule of civil discourse. For Aristotle, it is discourse on conflict, not unanimity based in homogeneity, that helps democracy thrive. Thus, the impact of diversity on the sustainability and vitality of democracy has been debated for millennia, and it remains a contentious political issue.

If, as some people believe, the stability and viability of democracy depend on harmony and unity, diversity and multiculturalism are often perceived as threats to democratic processes. According to Arthur Schlesinger (1991), a prolific critic of multiculturalism, especially in educational settings,

> when multiculturalism means the assumption that ethnicity is the defining experience for every American, that . . . we must discard the idea of a common culture and celebrate, reinforce and perpetuate separate ethnic and racial communities, then multiculturalism not only betrays history but undermines the theory of America as one people. (pp. 13–14)

The fear that diversity may undermine the unity needed for democracy underlies the critiques of diversity offered in amicus briefs by the National Association of Scholars affirmative action cases over the past decade and in essays opposed to multicultural initiatives within schools of social work and intergroup dialogue programs (Wood, 2008). Others argue that diversity can be compatible with democracy and may even foster it when the rules of civic engagement involve genuine communication among people from many cultural, racial, and ethnic backgrounds.

Whatever the controversies about the impact of diversity, it is clear that higher education institutions will need to successfully educate a much more diverse population of students. The public mission will be, as now, to educate all students to be global leaders and active contributors to the sustaining and advancing of local and global economies and democracies.

Research on Diversity in Higher Education

Research on diversity in higher education provides some guidance about how colleges and universities can educate the increasingly diverse population of students to become local and global leaders. A new, large literature on the impact of diversity in higher education was fostered when evidence about the educational role of diversity was needed in legal cases involving affirmative action. In 1978, when

the first higher education affirmative action case, *Regents of the University of California v. Bakke*, was considered by the U.S. Supreme Court, there was scant research evidence that could be brought to bear on the contention that diversity has educational benefits. In *Bakke*, it was Justice Lewis Powell's reasoning, without benefit of a research basis, that was decisive: Diversity could be a compelling state interest justifying a narrowly tailored use of race in admissions. Cases that followed the *Bakke* decision adopted this reasoning, and since then, considerable effort has gone into providing empirical evidence about the educational role of diversity.

In the *Grutter v. Bollinger* and *Gratz v. Bollinger* cases, heard by the U.S. Supreme Court in 2003, three levels of diversity were conceptualized: (1) structural diversity, (2) curricular diversity, and (3) interactional diversity. Research affirms the importance of structural diversity—the demographic representation of students on campus. Students who attend the most diverse institutions interact the most with diverse peers. However, it cannot be assumed that the demographic diversity on campuses automatically leads to the desired educational outcomes for students. A second set of studies shows that diversity must be leveraged in intentional ways through courses—curricular diversity—and out-of-class interactions and programs—interactional diversity—to produce educational benefits. Research also shows that such institutional use of diversity is related to a wide range of positive student outcomes, among them critical thinking skills, academic self-confidence, consideration of multiple perspectives, motivation to bridge differences, and empathy for others who differ in social background and experience. Many studies also stress that peer interaction across diverse individuals and groups is especially influential.

Few of these studies, however, provide evidence that diversity courses or experiences specifically *cause* students to change in these ways. Mere evidence that students change from the beginning to the end of a course or a college experience is not causally conclusive because those students might have changed just because of the experience of being in college. True (randomized controlled) experiments are needed to demonstrate that diversity causes educational changes in students. For example, researchers from nine universities used an experimental design to assess the causal impact of a diversity course called intergroup dialogue, which leverages both curricular and interactional diversity by offering a structured curriculum based in active learning and by enrolling equal numbers of White students and students of color. The experimental design of the multi-university study enabled causal conclusions about diversity to be drawn. (See Gurin, Nagda, & Zúñiga, 2013, for a book-length presentation of this research.) The study found significantly greater change among the students receiving the experimental treatment—change that lasted for at least a year.

Thus, intergroup dialogue is one proven approach to leverage social diversity for educational benefit. While many other approaches exist across colleges and universities, most of them need this kind of rigorous assessment of impact. Going forward, higher education institutions need to make dealing positively with diversity a strategic mission in order to successfully educate an increasingly diverse student body. They must aim for an evidence-based impact of their efforts so as to produce graduates prepared to further technological and social innovation and to be leaders capable of negotiating, collaborating, and dialoguing with leaders across the world, especially those from non-Western countries, what Zakaria (2008) calls "the rising rest."

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See also Bilingual Education; Equality of Educational Opportunity; Ethnicity and Race; Gender and Education; Higher Education: Contemporary Controversies; Legal Decisions Affecting Education; Multicultural Citizenship; Social Class

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Dropouts

One of the major educational challenges in virtually all industrialized nations is ensuring that as many students as possible graduate from upper secondary or high school. For although many countries allow students to leave school prior to completing upper secondary school, a high school diploma is increasingly a minimal requirement for entry into the labor market and for further education. Students who quit school before graduation are referred to as dropouts. This entry discusses the causes and social outcomes of dropping out of school. It then examines some essential elements in programs aimed at preventing students from dropping out.

According to the Organisation for Economic Co-operation and Development (OECD, 2013), the average upper secondary graduation rate among all member countries in 2011 was 83% and ranged from 49% in Mexico to 99% in Slovenia. The graduation rate in the United States was 77%, which ranks 21st among all 34 member countries.

Graduation rates vary by several demographic characteristics. In the United States, for example, graduation rates are higher for women than for men; and there are large disparities in high school graduation rates by racial and ethnic background, with graduation rates among African American and Hispanic students as much as 30 percentage points lower than among Asian American and White students. Finally, there are large disparities in graduation rates by family background, with students whose parents graduated from college having much higher graduation rates than students whose parents failed to complete high school. The challenge of improving high school graduation rates in many schools, districts, and states in the United States will depend greatly on the ability to improve rates among the most disadvantaged populations, especially in places with large concentrations of such students.

One reason to reduce dropout rates and improve graduation rates is that dropouts suffer extensive economic and social consequences—they have difficulty finding jobs and earn substantially less than high school graduates, they have poorer health and higher rates of mortality than high school graduates, and they are more likely to engage in criminal behavior and be incarcerated over their lifetimes than are graduates. They also are more likely to require public assistance and less likely to vote. Although the observed relationship between dropping out and these economic and social outcomes does not necessarily imply a causal relationship, a growing body of research evidence has, in fact, demonstrated one (Rumberger, 2011). This suggests that efforts to reduce dropout rates would, in fact, reduce these negative social outcomes and the huge attendant costs—federal, state, and local governments collect fewer taxes from dropouts, and the government subsidizes the costs associated with poorer health, higher criminal activity, and the increased need for public assistance.

Understanding why students drop out of school is the key to addressing this major educational problem; yet identifying the causes of dropping out is extremely difficult. Like other educational phenomena, the causes of dropping out are influenced by an array of proximal and distal factors related both to the individual student and to the family, school, and community settings in which the student lives. Dropouts themselves report a variety of reasons for leaving school, including school-related, family-related, and work-related reasons. But these reasons do not reveal the underlying causes of students quitting school, particularly those causes or factors in elementary or middle school that may contribute to students' attitudes, behaviors, and school performance immediately preceding their decision to leave school. Moreover, if many factors contribute to this phenomenon over a long period of time, it is virtually impossible to demonstrate a causal connection between any single factor and the decision to quit school.

Interventions to Reduce Dropout Rates

Despite this difficulty, two types of factors have been identified that contribute to or increase the likelihood that students drop out of school: (1) individual factors, associated with students' attitudes, behaviors, and experiences, and (2) contextual factors, associated with students' families, schools, communities, and peers.

Knowledge about why students drop out suggests several things about how to design effective intervention strategies. First, because dropping out is influenced by both individual and institutional factors, intervention strategies can focus on either or both sets of factors. That is, intervention strategies can focus on addressing the individual values, attitudes, and behaviors that are associated with dropping out, without attempting to alter the characteristics of families, schools, and communities that may contribute to those individual factors. Many dropout prevention programs pursue such *programmatic strategies* by providing would-be dropouts with additional resources and support to help them stay in school. Alternatively, intervention strategies can focus on attempting to improve the environmental contexts of potential dropouts by providing resources and support to strengthen or restructure their families, schools, and communities. Such *systemic strategies* are often part of larger efforts to improve the educational and social outcomes of at-risk students more generally.

Second, because dropping out is associated with both academic and social problems, effective prevention strategies must focus on both arenas. That is, if dropout prevention strategies are going to be effective, they must be comprehensive, providing resources and support in all areas of students' lives. Because dropouts leave school for a variety of reasons, services provided for them must be flexible and tailored to their individual needs.

Third, because the problematic attitudes and behaviors of students at risk of dropping out appear as early as elementary school, dropout prevention strategies can and should begin early in a child's educational career. Dropout prevention programs often target high school or middle school students who may have already experienced years of educational failure or unsolved problems. Instead, early intervention may be the most powerful and cost-effective approach to dropout prevention.

To conclude, successfully addressing the dropout problem will require both capacity and will. Capacity requires technical expertise to develop and implement effective dropout prevention and recovery programs as well as more ambitious systemic school reforms. While some schools have such capacity, in most cases additional resources, technical expertise, and incentives are required to restructure existing schools. The development of such capacity will require political will; but even with the will to reform schools, it is unlikely that any country will ever be able to ensure that all students graduate from high school without ensuring adequate resources for families, schools, and communities.

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See also Achievement Gap; Adolescent Development; At-Risk Children; Motivation; Social Class

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Du Bois, W. E. B.

William Edward Burghardt Du Bois (1868–1963) was an African American sociologist, philosopher, historian, and activist whose work greatly influenced education in the United States. His philosophy of education is inseparable from his conceptions of the intersection of race and culture and from his view of humanity as a synergy of dissimilar cultures in a dynamic relationship of mutual benefit and interdependence. Although his philosophy of education is often perceived as captured in the "Talented Tenth" concept (the view that higher education should develop the potential of the most able Black students), that idea is only a phase in his educational thought and a particular reaction to the assaults on Black higher education at the turn of the 20th century. His overarching philosophy of education was much broader, more complex, and more progressive than the Talented Tenth theory.

Du Bois's educational thought derived from his view of civilization as a dynamic equilibrium, a

cultural ecosystem, in which humanity is preserved and advanced by insights and contributions from a diversity of cultures existing on a plane of equality. His study of race and culture was closely linked to his deeply held belief that humanity is a cultural ecosystem of different racial/cultural groups bound together by "a common history, common laws and religion, similar habits of thought and a conscious striving together for certain ideals of life" (Du Bois, 1897a, p. 10). Put another way, the separate and distinctive historical experiences of various populations produce novel ways of thinking, distinctive values and beliefs, and different preferences on a variety of political, economic, and social issues. Du Bois's philosophy of education presupposed a universal humanity sustained and advanced through the synergy and interdependence of the various racial/culture groups of the world.

The critical questions for Du Bois, then, were how different cultures of the world could achieve self-realization and how they could contribute their crucial "ideals of life" to universal humanity. His answer to the first question was relatively straightforward: "by the development of these race groups, not as individuals, but as races" (Du Bois, 1897a, p. 10). "For the development of Negro genius, of Negro literature and art, of Negro spirit," wrote Du Bois (1897a), "only Negroes bound and welded together, Negroes inspired by one vast ideal, can work out in its fullness the great message we have for humanity" (p. 10). He characterized a second and more complicated question as the struggle for cultural citizenship. Du Bois (1973) stated specifically that it was his larger goal "to educate the Negro into the possibility of full citizenship in the modern world of culture" (p. 85). Whereas self-realization was basically an internal struggle, cultural citizenship was fundamentally an external struggle, hinging directly on the power relationships between subordinate and dominant groups. The end of the Negro's striving, said Du Bois (1897b), "is to be a co-worker in the kingdom of culture" (p. 196). The long-standing contradiction between cultural self-realization and cultural oppression constituted for Du Bois the "unreconciled strivings" to be both Negro and American. Reconciliation would come only when the striving for cultural equality was achieved.

As Du Bois developed his thinking about culture and education, he also clarified his thinking about who should be educated and for what purpose. In 1920, Du Bois, rather than advocating liberal education for the Talented Tenth and industrial education for the masses, cautioned that education must seek to provide "the utmost possible freedom for every human soul" (p. 208). The aim of education, Du Bois maintained, is to "develop human souls" and "to make all intelligent" by discovering the special talent and genius of each individual. Unless education accomplishes its goal of developing "wider, deeper intelligence among the masses," said Du Bois, "democracy cannot accomplish its greater ends" (p. 208). Every single human being, said Du Bois, deserves "college and vocational training free and under the best teaching force procurable for love or money" (p. 212). Ultimately, he defined higher education as the birthright of the masses, not just a privilege of the Talented Tenth. "We assume that only the wealthy have a real right to education when, in fact, being born is being given a right to college training," wrote Du Bois in 1920 (p. 216). College training was necessary to achieve Black cultural self-realization and also to prepare Black students to engage other cultures of the world in the realm of a broader humanity. As Du Bois stated in 1920,

> Shall we teach Latin, Greek and mathematics to the "masses"? If they are worth teaching to anybody, the masses need them most. Who shall go to college? Everybody. When shall culture training give place to technical education for work? Never. (p. 215)

He viewed cultural training as the foundation of our larger humanity and thus emphasized its equal importance to the masses and elites.

The concept of a united humanity synthesized from the special gifts of each historical race remained an article of faith for Du Bois. Even the worst of times could not shake his basic belief in the prospects of a peacefully united humanity resting on the interplay among more or less coequal cultures. Throughout his life, he fought for cultural realization and cultural equality as the necessary basis for that humanity. Thus, in his 92nd year, before the 1960 Conference of the Association of Social Science Teachers, Du Bois reaffirmed his lifelong struggle for cultural realization and cultural equality. "What I have been fighting for and am still fighting for," said Du Bois, "is the possibility of black folk and their cultural patterns existing in America without discrimination; and on term of equality" (Du Bois, 1973, p. 150). It was forever his belief that African and African American art, literature, religion, philosophy, and history contained critical insights about human oppression and freedom, embodied

crucial ideals of life for all humanity, and offered the only path to a successful future for Black Americans. Beyond every group's own cultural realization, however, lay what Du Bois considered to be the highest stage of development, "the chance to soar in the dim blue air of a common humanity." Up there "above the smoke," he said, "across the color line I move arm and arm with Balzac and Dumas," "I sat with Shakespeare and he winces not," "I summon Aristole and Aurelius," and "they come all graciously with no scorn nor condescension." "So wed with truth, I dwell above the Veil," said Du Bois (1903, p. 76). Throughout his career, he believed deeply in the idea of a cultural symbiosis, a universal humanity made possible only by diverse cultural contributions.

This conception of society as a cultural ecosystem in which each separate and distinct ethnocultural group made its own distinctive and worthy contributions to the larger humanity guided Du Bois's educational theory. A child's formative education, he maintained, should be grounded on the historically conditioned experiences and sensibilities of each ethnocultural group. With respect to the education of Black children, Du Bois called for an education system based on the history and culture, as well as the philosophies and theories, centered on the African American experience, delivered through a curriculum of history, art, literature, music, folklore, ethics, and philosophy and developed by Black scholars. Yet the primary purpose of such education is not to perpetuate "the very cleft that threatens and separates Black and White America" but to realize a broader humanity that freely recognizes human differences while deprecating inequality in opportunities for individual development. Ultimately, Black education should develop not in opposition to but in harmony with the greater ideals of the American republic so that different groups could contribute to each other those cultural and humanistic insights lacking in their own separate and distinct historical experiences.

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See also Democratic Theory of Education; Ethnicity and Race; Racism and Multicultural Antiracist education

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E

Economic Development and Education

The idea that there is a connection between education and economic development has now become commonplace. Politicians refer to the importance of education as increasing the returns to income and national competitiveness in the global economy, as if the relationship between education and the economy is uncontested. It is not.

It should be said that reference to economic development was once reserved for developing countries, but in light of the Great Recession and the rise of the East Asian economies such as China and India, the question of how to achieve national economic growth now also applies to the so-called developed economies. The idea that a combination of sound education and "free" markets was all that was required for prosperity is now in doubt. Yet it is precisely this formula that underlies the major theories of education and economic development. This entry discusses the dominance of human capital theory and skill bias theory in explaining the relationship between education and the economy, criticism of these theories beginning in the early 1970s, and alternative viewpoints based on current trends in the global labor market.

The field of education and economic development has been dominated by human capital theory and the related skill bias theory, which has gained significance due to the perceived information technology (IT) economic revolution. Both these theories are optimistic accounts of the relationship between education and economic development. Derived from orthodox or neoclassical economics, they have aspired to knowledge claims that are universal. And in the case of human capital theory, its general proposition that a rise in educational quality will lead to increases in productivity and economic growth has held over time and location since the 1950s, with some exceptions. That is no longer the case, and new theories have arrived that challenge its fundamental theoretical and empirical claims. The same point can be made with respect to skill bias theories.

To understand why the relationship between education and economic development is contested, we need to go back to the formal origins of human capital theory that has dominated intellectual and policy thinking. Once we understand the anomalies in this theory, we can see why competitor theories are now being developed.

Human Capital Theory

Human capital theory posits that the better educated a person is, the more productive he or she is likely to be, for which he or she will earn a higher income (Becker, 1962; Schultz, 1961). The theory has three significant assumptions: that it is in the self-interest of individuals to pursue education because it will lead to higher economic returns, which form the basis for aspiration and a sense of progress in society; that education is fundamentally efficient because employers will not hire incompetent people; and that employers will respond to a better-educated workforce by investing in new technology to capitalize on the productive potential of a more skilled workforce.

On the basis of these assumptions, the theory can be tested through rates of income returns for

particular categories of skilled work (Burton-Jones & Spender, 2011). Rate of return analyses suggested that the theory offers universal validation for increasing investment and expansion in education, especially mass higher education.

The theory was attractive because it was consistent with a capitalist ideology in which all human beings could themselves become capitalists by investing in knowledge and skills, so dissolving at a conceptual stroke the idea that there was a fundamental conflict between capitalists and workers (Bowles & Gintis, 1975). It provided policymakers with a simple policy prescription: Provide the means for individuals to have a good general education, and they will increase their income and the nation's wealth. It also provided legitimacy for social mobility because employers will hire on merit, since it would be inefficient to do otherwise. Hence, upward social mobility can be explained through the acquisition of educational credentials and the way they can be cashed out in the labor market.

While the theory had its roots in the United States, the early human capital theorists also saw its potential with respect to less developed economies. Initially the World Bank, as the principal lender to less developed economies, took little interest in education. Gradually, an interest emerged in relation to technical and vocational education and then primary education. In 1981, the World Bank appointed George Psacharopoulos as head of its education department's research unit, and his analysis of rate of returns to different levels of education in developing countries has proved, until recently, to be highly influential. As late as 2007, two of the leading proponents of human capital theory, Eric A. Hanushek and Ludger Woessmann, were arguing in a paper for the World Bank that the "quality" of education can make a significant difference to a developing nation's notional future GDP (gross domestic product). They calculated that if the educational reforms they recommend were implemented, GDP would rise in developing countries by 5% over 20 years. The educational reforms they recommended are ideologically loaded: school choice and competition, autonomy for schools, and accountability for outcomes.

Since the advent of the latest IT-driven industrial revolution, a new form of human capital theory has taken center stage: skill bias theory.

Skill Bias Theory

Skill bias theory makes the universal assumption that the demand for skilled workers will be driven by new technology. The fundamental proposition is that the general purpose technologies associated with IT are skill biased rather than skill replacing; new technology will increase the demand for higher skills rather than replacing skills with machines. Its policy significance lies in the support that it has provided and continues to provide for the rapid expansion of university education, while assuming that technology will drive the corresponding organizational and economic changes to utilize the skills that graduates acquire. There are several accounts of skill bias theory. However, the most powerful is that articulated by Daron Acemoglu (2002), who argues that there is an endogenous relationship between new technology and the demand for skilled workers. New technologies are endogenous in that their adoption is a response to incentives; in particular, the increase in the supply of skills will lead to acceleration in the demand for higher skills. Such a view is consistent with human capital theory in that it also assumes that market mechanisms will ensure that demand will respond to supply. As Claudia Goldin and Lawrence Katz (2008) note, this approach provides an explanation for the polarization of incomes: Where there is an undersupply of skilled labor, the premium for skilled labor (e.g., graduates) will rise. In the case of the United States, Goldin and Katz argue that the polarization of income is a consequence of a lack of enrollments in four-year college programs. If there was an increase in numbers of four-year college graduates, their incomes would decline, thus reducing the polarization of incomes.

While skill bias theory may be considered a theoretical innovation that builds on human capital theory, there have been few others in the orthodox tradition. One, however, is of note, the work of David Baker (2012). He argues that education produces both minds and character that are productive in the workplace and that education has fundamentally changed the workplace. In particular, what he calls the schooled society has created "thinking and choosing actors, embodying professional expertise and capable of rational and creative behavior." These enable new forms of organization that are global and characterized by accounting and auditing frameworks, elaborate legal contracts, corporate social responsibility, human relations, and strategic planning. Baker's innovation is to provide a more developed account than that of orthodox human capital theory, which focuses on the nature of the schooled society and the way it has changed the nature of organizations.

While Baker's theory extends the notion of human capital while going beyond the formal theory, both human capital and skill bias theories continue to enjoy the confidence of policymakers. This is because they chime with the more loosely articulated but rhetorically powerful notion of the knowledge economy—the view that technical knowledge and innovation are the key drivers of the modern economy. Indeed, Gary Becker (2006), the doyen of human capital theorists, has claimed that we are now living in the age of human capital because of the nature of the knowledge economy. However, human capital theory has been under intense criticism from its early days. Now, however, there are also competitor theories that make the case for it and skill bias theory more precarious.

Criticisms of Human Capital and Skill Bias Theories

By the early 1970s, human capital theory had come under sustained criticism. In particular, it failed to take into account that wages do not reflect productivity as assumed by human capital theory. Indeed, contemporary analyses of wages and productivity show a sharp divergence between productivity and the median wage. Other factors, apart from education and skill, also determine wages; these include unionization, the minimum wage, and traditions of status that continue to affect men's and women's wages. Underlying these criticisms was a further crucial assumption of both human capital and skill bias theories—they made claims to universality that their propositions held true at all times and in all places. The point made by the critics was that we could only understand wage setting by reference to a range of national institutions. Such a view is explicit in the seminal paper by David Finegold and David Soskice (1988), in which they argued that Britain had a dual equilibrium economy based on high and low skills, respectively. However, the keys to understanding this economy were the institutions that buttressed high and low skills. In other words, universal claims regarding the education–economy relationship cannot be made because we also need to understand institutional configurations peculiar to national economies.

A further problem with human capital and skill bias theories is that they assume a relatively simple correspondence between the supply and demand for skills. However, if we take positional conflict theory into account (Brown, 2000), then it is clear that rises in the demand for credentials may not reflect technological or organizational advances but are part of a competition in which credential inflation arises because individuals with higher credentials are more likely to be employed. For positional conflict theorists, it is the best resourced that will gain because they can afford to run the long credential race.

Finally, it should be noted that neither human capital and skill bias theorists nor indeed their critics have taken into account the impact of the creation of global labor markets. The former theories have applied their notion of the universal within the confines of methodological nationalism and have not taken into account the global trends and the way they will influence the supply and demand for skilled labor.

Toward Alternative Accounts of Education and Economic Development

If it has been assumed by policymakers and orthodox economists that the IT revolution will increase the demand for educated labor, then there are four trends that raise serious doubts about this claim (Brown, Lauder, & Ashton, 2011); central to these trends is the creation of a global labor market for all except those who do "face-to-face" work. The trends are as follows: a massive rise in educated labor, especially in developing economies, raising the prospect of high-skill, low-wage work; a quality–cost revolution in which East Asian and Latin American economies can produce high-quality goods and services at low cost; and the dissemination across the globe of Digital Taylorism, in which knowledge work is increasingly routinized because the distinguishing feature of all economic revolutions is that an initial burst of creativity is followed by standardization in mass markets and that there is "war" for the services of a few defined as "talented" (typically individuals from elite universities). Paradoxically, as we now have more graduates than ever before, so leading corporations take the view that only a few are really capable of driving forward their global businesses.

Key to these trends is the way that multinational companies now source skills from across the globe, usually at the lowest possible price. This means that we are now entering a period of a global auction for skilled labor, but it is a "Dutch" or "reverse" auction in which jobs go to those with the lowest costs (Brown et al., 2011). The implications for human capital and skill bias theories are clear: The assumptions that incomes will rise as educated

labor becomes more productive, and that new technology is skill biased, are in doubt in countries like the United States and the United Kingdom where skilled labor is relatively expensive. Equally, new technology appears to be skill replacing rather than skill biased.

For less developed economies, the global auction provides a mixed analysis. As we have seen in China and India, there is an increasing demand for high-skilled workers. Furthermore, one of the key findings concerning the quality–cost revolution is that high-quality goods and services can be produced anywhere, provided there is a communications infrastructure. The days when we thought that skill formation required sophisticated institutions and traditions are over. Multinational corporations (MNCs) now have the quality control systems to ensure high-quality production in which they train their operatives. The downside is that less developed economies need to identify where they can fit into MNC supply chains, not an easy task given that MNCs are footloose: They will move production locations, typically, wherever they are cheapest. The movement of production locations from the expensive Chinese eastern seaboard into the west of China and south to Vietnam is one such example. There are many others, as observers in the United States and United Kingdom have noted. What is clear is that the kind of linear human capital analysis in which higher education will lead to high economic growth, as provided by Hanushek and Woessman (2007), is inadequate to understanding the challenges faced by "developed" and less developed economies. Underlying this point is the assumption that we do not live in the imaginary of a knowledge economy but in a world of knowledge capitalism, which, as the global auction thesis suggests, has very different effects to those imagined by proponents of the knowledge economy. This has significant policy implications for how the relationship of education to the economy is understood.

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See also Globalization and World Society; Human Capital Theory and Education

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Edinburgh School of Sociology of Knowledge

The "Strong Programme" in the sociology of scientific knowledge (SSK) emerged in the early 1970s at the Edinburgh University Science Studies Unit with the work of Barry Barnes (1974) and David Bloor (1976) and was conceived as a radical challenge to the traditional conceptions of science found in both philosophy and sociology; it also has implications for science education (see Slezak, 1994a, 1994c).

The SSK undermines the traditional philosophical, epistemological enterprise and also the pursuit of science itself. If knowledge is the product of

historically contingent, "external" factors in the local social context rather than "internal" considerations of evidence and reason, then it is an illusion to imagine that education might serve to instill a capacity for critical thought and rational belief. Instead of fostering a creative mind and intellectual understanding of the world, Collins and Pinch (1992) recommend that science education should attend to the social negotiation, "myths," and "tricks of frontier science" as "the important thing" (p. 150). Above all, the relativism inherent in social constructivist theories makes it impossible for teachers to offer the usual intellectual grounds for distinguishing science from nonsense. Since the rational, cognitive virtues of theories are taken to be irrelevant to their status, one cannot complain that some views are false or implausible or otherwise lacking intellectual, explanatory merit. For example, one cannot teach that Soviet Lysenkoism or Hitler's racialism were perversions of scientific truth. According to social constructivist doctrines, their success in winning consensus must count as an exemplary scientific achievement. By repudiating the role of rational, cognitive considerations as the justification for scientific beliefs, social constructivist theories are a variety of relativism that Laudan (1990) characterized as "the most prominent and pernicious manifestation of anti-intellectualism in our time" (p. x). Instead of fostering rationality and critical, independent thinking, education on the constructivist account is only propaganda, "extracting compliance" through power and influence.

The key theses of this Strong Programme are indeed so strong that they have engendered bitter controversy, and the precise wording of these claims warrants careful examination. This entry describes the Strong Programme and then examines some of the criticisms that have been made of it.

Previously, sociology of science paid attention only to things such as institutional politics, citation patterns, and other such peripheral social phenomena surrounding the production of science but had not ventured to explain the cognitive contents of theories in sociological terms. However, the opening sentence of Bloor's (1976) book asked "Can the sociology of knowledge investigate and explain the very content and nature of scientific knowledge?"—that is, "knowledge as such, as distinct from the circumstances of production" (p. 1). The failure of previous sociological studies to touch on the contents of scientific belief was portrayed by Bloor as a loss of nerve and "a betrayal of their disciplinary standpoint" because sociologists had failed to "expand and generalise" (p. 8) their claims to all knowledge.

According to the Strong Programme, sociology of science must be

> *causal*—concerned with the conditions that bring about belief or states of knowledge;
>
> *impartial*—truth or falsity, rationality or irrationality, and success or failure must be explained;
>
> *symmetrical*—the same types of cause would explain both true and false beliefs; and
>
> *reflexive*—it must be applicable to sociology itself.

Thus, Bloor asserted the appropriateness of sociological (i.e., social constructivist) explanations for all of science regardless of evaluative judgments such as truth or falsity, rationality or irrationality, and success or failure. According to Bloor (1976), sociologists were to assert their claims over the area "currently occupied by philosophers, who have been allowed to take upon themselves the task of defining the nature of knowledge" (p. 1). Indeed, Bloor (1983) proclaimed social studies of science as the new "heirs to the subject that used to be called philosophy" (p. 182). Andrew Pickering (1992) proclaimed, "The foundations of modern thought are at stake here" (p. 22). Indeed, Bloor describes the two most important modern philosophical elucidations of science as "mystification"—namely, the theories of Karl Popper and Thomas Kuhn. In the same vein, Gottlob Frege's position in the history of Western thought is generally agreed by philosophers to be second only to Immanuel Kant or even Plato. One could not cite an example of clarification and illumination that is regarded as comparable to Frege's work in the foundations of logic, mathematics, and language. Nevertheless, Bloor (1976) characterizes Frege's work as a "mystification" and as "unpromising and imprecise conceptions" (p. 93).

Bloor (1976) suggests that the "threatening" nature of any investigation into science itself has been the cause of "a positive disinclination to examine the nature of knowledge in a candid and scientific way" (p. 42). However, despite such fears of desecration and the need to keep knowledge "mystified," every philosopher since Plato has been centrally concerned with the problem of knowledge and its justification. Nevertheless, Bloor announced his intention to "despoil academic boundaries"

(p. ix) and asserted that the sociological approach to science encounters resistance because "some nerve has been touched." And, indeed, the social constructivist movement has given rise to acrimonious polemics in the academic literature. The philosopher Mario Bunge (1991) described the field as "a grotesque cartoon of scientific research" (p. 525), and David Stove (1991) characterized the sociological doctrine of the "strong programme" as "so absurd, that it eludes the force of all argument" and a "stupid and discreditable business" (p. 31). Larry Laudan (1981), who was among the first philosophers to make systematic critical analysis of social constructivism, characterized it as a "rampant relativism" and "the most prominent and pernicious manifestation of anti-intellectualism in our time" (1990, p. x). The academic disputes gained wider public attention in the so-called Science Wars (Gross & Levitt, 2004) and especially through the notorious Sokal hoax (Sokal & Bricmont, 1997). This heightening of controversy arose from the unwitting publication by the journal *Social Text* of a spoof article written in the postmodernist style by the mathematical physicist Alan Sokal, which was deliberate nonsense.

The phenomena of central interest for the Edinburgh school were "the conditions which bring about belief or states of knowledge" (Bloor, 1976, p. 4; 1983, p. 137). Bloor (1976) says, "The theoretical component of knowledge is precisely the social component" (p. 86). Bloor's idea is that our scientific theories go beyond what is directly observable (i.e., they are "underdetermined" by evidence), and what is not empirical in this sense must be shaped by sociological influences. However, the mere fact of underdetermination does not, on its own, establish any sociological claim. Some independent grounds must be given for preferring social factors as the ones that influence the "choice" of a theory but, of course, there is rarely any "choice" in this sense, since creative theory invention or discovery is best explained as a cognitive, psychological process (Thagard, 1992).

Criticisms of the Strong Programme

The extensive body of case studies has been taken to establish the thesis that beliefs have social causes, in contradistinction to psychological ones. The causal claim concerns things such as "connections between the gross social structure of groups and the general form of the cosmologies to which they have subscribed" (Bloor, 1976, p. 3). That is, the cognitive content of the beliefs is taken to be caused by contingent, local aspects of the social milieu. Bloor asserts that this causal link is beyond dispute. However, criticisms have challenged precisely the bearing of these studies on the causal claims of social determination. Steven Shapin (1979) cites the "considerable empirical achievements" (p. 65) of the SSK, but scientific discoveries always necessarily arise in some social milieu or other. Thus, it is a truism to assert, as Shapin (1979) does, merely that "culture [taken to include science] is developed and evaluated in particular historical situations" (p. 42). To the extent that social factors are indeed ubiquitous, establishing a causal connection requires more than merely characterizing in detail the social milieu, which (necessarily) must have existed. Shapin's anthropological approach postulates "homologies" between society and theories that may serve as "expressive symbolism" or perhaps function to further social interests in their "context of use." However, these don't establish the strong claims of social causation.

Bloor (1982) cites *Primitive Classification* of Émile Durkheim and Marcel Mauss (1903/1963) in support of his Strong Programme and points to their thesis that cosmologies of groups such as the Zuñi reflected precise features of their social structure. That is, society not merely influences knowledge but "is constitutive of it" (Bloor, 1982, p. 297). However, Rodney Needham (editor of Bloor's edition of *Primitive Classification*) describes the central doctrine as an unwarranted, abrupt inference without empirical basis and a logical error that flaws the entire work. Needham (1903/1963) describes the "entire venture to have been misconceived," concluding, "It is difficult not to recoil in dismay from their unevidenced and unreasoned explanations" (p. xxiii).

Bloor contrasted accounts invoking reasons, rationality, logic, and evidence (the accounts he is trying to debunk) with "the causal" model—meaning a sociological one. Bloor complained of the traditional asymmetrical rationalist approaches that they sought to explain correct scientific theories as products of reasoned thought and, therefore, not requiring resort to causal sociological explanations. Bloor (1976) regards this "teleological" approach as rendering science "safe from the indignity of empirical explanation" (p. 7), but for rationalist philosophers, good reasons are a species of causal explanation. Nevertheless, Bloor (1976) characterized the "autonomy of science" view that he is opposing as "the conviction that some beliefs do not stand in need of any explanation, or do not stand in need of a causal explanation" (p. 5). Bloor attributes

to philosophers the "teleological" view "that nothing makes people do things that are correct but something does make, or cause, them to go wrong" and that in the case of true beliefs "causes do not need to be invoked" (p. 6). By contrast with the teleological view, which inclines its proponents to "reject causality" (p. 10), Bloor defends the "causal view," that is, the sociological approach of the Strong Programme. Moreover, Bloor states, "There is no doubt that if the teleological model is true then the strong programme is false. The teleological and causal models, then, represent programmatic alternatives which quite exclude one another" (p. 9).

Laudan (1981, p. 178) suggested that Bloor's acausal view of the traditional account of belief formation has not been held by any philosopher; instead, the traditional view is that true beliefs are caused (at least in large part) by the evidence and scientific arguments that are presented. Nevertheless, in response, Bloor (1991) maintains "attacks by critics have not convinced me of the need to give ground on any matter of substance" (p. ix). Accordingly, in the second edition of his book, he says, "I have resisted the temptation to alter the original presentation of the case for the sociology of knowledge" apart from minor spelling and stylistic changes (p. ix). However, in the section on the "Autonomy of Knowledge" dealing with the problem of causation, Bloor made crucial, substantive changes concerning the very claims that had been the target of Laudan (1981; for details, see Slezak, 1994b). It is notable that the introductory text by Barry Barnes, Bloor, and John Henry (1996) neglects entirely to mention social constructivism, the Strong Programme, or the teleological view.

Bloor did address claims that psychological, cognitive explanations constitute "as decisive a refutation of the strong program as one is likely to get" (Slezak, 1989, p. 592). However, his suggestion that the Strong Programme is consistent with cognitive science cannot be reconciled with his explicit endorsement of Skinnerian behaviorism. Bloor also suggests that there is no conflict since the sociological thesis at stake is merely that there are "social aspects of knowledge" that remain untouched by the claims of cognitive science. However, the claim that there are "social aspects of knowledge" is an uncontroversial one that no one has taken issue with and not the thesis of the Strong Programme, which was advanced against traditional epistemology.

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See also Kuhn, Thomas S.; Lakatos, Imre; Popper, Karl; Social Constructionism

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Education, Concept of

Every claim about an educational issue is partly a claim about the concept of education. The claim that there are certain "best practices" in teaching, for instance, implies that certain practices are educationally important, which implies a certain conception of what it is to be well educated. To advocate teaching a particular subject logically implies some connection between study of the subject and educational gain, and to say that a certain type of classroom management is desirable because, for example, it is conducive to developing democratic habits and values is indicative of a certain educational ideal.

It follows that everyone who engages in debate about education has to a degree a concept of education, though some are more able to articulate their conception than others, some are more able to defend and argue for their conception, while some may not even be aware that they imply commitment to a particular conception. More often than might be commonly supposed, arguments about the merits of different educational proposals are not about the likely effects of a given practice but about what has educational value; similarly, arguments about matters such as whether classics or gymnastics are more deserving of curriculum time are, at bottom, arguments about what the characteristics of educated people should be.

Relativism

The fact that there are differing and even incompatible conceptions of education naturally gives rise to the question of whether we can discriminate between these rival concepts in some rational manner. Is any concept of education as good as another, depending on who you are, where you are situated, and what you value? Or can we assert, as Plato is generally taken to have believed, that there is but one true and real concept (what he called the Idea or Form) of education, which we come to recognize by dint of rigorous philosophical inquiry (with the implication that in practice some people cannot see it and have to be guided by those who can)?

It is doubtful whether many today would defend Plato's view as thus interpreted. By contrast, most would subscribe to the view that education is what W. B. Gallie (1955) referred to as "an essentially contested concept"—that is, a concept that, generally because it is inherently evaluative, is inevitably going to be differently interpreted according to the changing values of time and place. Homeric heroes, for example, did not regard the ability to read and write as marks of the educated person, since they barely knew anything about reading and writing. But there is a danger of interpreting Gallie's notion too simplistically as implying that any conception is as good as another, provided it truly represents what you happen to value. This is unfair to Gallie, who did not argue that essentially contested concepts could be understood in any way one chooses but only that a degree of argument was inevitable in relation to certain concepts; but the argument in question is bound by certain rules and, in some cases, by facts of a nonevaluative kind. Thus, the Homeric warrior may reasonably think that martial and physical prowess are characteristics of the educated person, and we may dissent. But it does not follow that either they or we might legitimately argue that being overweight is a characteristic of the educated person.

It has sometimes been suggested that we should distinguish between a "concept" and a "conception," the former referring to something like a Platonic Form, the latter to any notion that somebody happens to hold. Thus, there is the concept of triangularity, which is the nonnegotiable notion of a three-sided figure whose angles add up to 180 degrees, whereas there may be various conceptions—that is, views, notions, or accounts, of the good life. It might prove helpful to adopt this distinction universally, but in practice, it has not been adopted, and in what follows, no distinction is made between a concept and a conception.

R. S. Peters

R. S. Peters, Professor of the Philosophy of Education at the University of London Institute of Education, who did much of his influential work in the 1960s

and 1970s, did more than anyone to sort out sense and nonsense in relation to the concept of education. Of course, as noted, philosophers who have involved themselves with educational issues may be said to have a concept of education; however, Peters's own practice implicitly made the important point that, given that fact, the appropriate, one might almost say the obligatory, first step is to articulate that conception explicitly and clearly. For this, he has been criticized as well as praised. Some, such as David Adelstein (1972), accused him of taking a Platonic stance, and of failing to see (or it was sometimes hinted, deliberately disguising the fact) that the eternally valid characteristics of the Idea of education that he claimed to discern were no more than the prejudices and values of his own background and class. Comments such as "a man might be a very highly trained scientist; yet we might refuse to call him an educated man" if he were lacking "what might be called 'cognitive perspective'" (Peters, 1966, p. 31) were castigated as being no more than a reflection of Peters's own middle-class upbringing; such criticism further tended to deflect attention away from, in this case, the important notion of "cognitive perspective" or from giving due weight and attention to various different aspects of an issue, such as the moral, the aesthetic, and the scientific. The implications of Adelstein's attack, and to a lesser extent the less personal but similar criticism of the so-called sociologists of knowledge (Young, 1971), who argue that knowledge is a social construct, logically take us back to the view that any conception of education is possible and that in itself any one is as good as another, although it is doubtful whether even Adelstein actually accepted that conclusion.

But in fact it is arguable that Peters was fundamentally correct both in his understanding of the nature of analysis generally and in his analysis of education specifically. For while it is certain that a detailed and fully fleshed-out account of what it is to be well educated will be informed and affected by the values and other nonevaluative facts accepted at a given time and place, there are certain criteria, albeit general and formal, that are necessary to any plausible or acceptable understanding of education. This may look as if it is a purely linguistic point, which is incidentally another charge that has been wrongly laid against Peters, but it is not. (Nor, more generally, should philosophical analysis be confused with linguistic analysis; though the former may take the form of the latter, it need not, and in fact even those philosophers who are widely known as "linguistic" and who did have a real interest in strictly linguistic points, such as J. L. Austin [1962] were never interested in language alone.)

Peters's argument does indeed *begin* with a linguistic point—and it is difficult to see how any conceptual inquiry could do otherwise, since it is by means of words that we refer to concepts. The English word *education* (and its counterpart in Latin, Greek, French, or whatever) cannot mean anything that you want it to mean: Being "educated" is different from being "clever," for example, though they may happen to overlap, and one is not at liberty to suggest that being educated is one and the same thing as being rich or successful. These are verbal points, but they are also facts in terms of usage at this stage in the history of the language. As such, they help us find ground on which to take our initial stand. The word "education" refers to bringing up or developing the individual in ways that we regard as desirable, but with particular reference to knowledge and the mind. The Roman poet Juvenal went further, seeing it as the development of "a sound mind in a sound body" (*mens sana in corpore sano*). But the claim here is that while one might well argue that we should develop the body as well as the mind, to regard someone as well educated who is not particularly sound of body or who is physically fit but very ignorant betrays a lack of knowledge of the English language.

From this point on, the analysis is far from merely linguistic. It will be *argued* that our capacity to think propositionally, which enables us to hypothesize, predict, and so on, and which (despite claims to the contrary) appears to be shared by no other species, is the essential characteristic of our mind and that we should develop this capacity for its intrinsic and its extrinsic value and because it is, as Aristotle put it, "our defining excellence." To develop the mind is one and the same thing as to develop our understanding.

Peters's substantive claims about education now come into play. The understanding of the educated person is not just any understanding—we would not call a pickpocket well educated just because he knows how to pick pockets successfully. More generally, we consider the educated person to be one who has more than "knowledge how to . . . ," more than a repertoire of skills, but rather has understanding of "the reason why of things." At this juncture, two points should be noted about Peters's method; he has been criticized for his use of phrasing such as "we would not call . . ." or "we would not say" on the grounds that this is simply to report on the way that he and his friends happen to express

themselves. But it is surely clear that he does not mean by such phrasing "as a matter of empirical fact nobody does say this"; rather, he means to invite readers to consider whether it makes sense to them to talk in such a way, confident in the view that honest reflection will lead to the conclusion that it doesn't make sense. Second, Peters actually tends to talk more of knowledge than of understanding. The latter can be seen as preferable since it is more open; one can understand things that are not true, for example.

On Peters's view, the characteristics of the understanding displayed by the educated person, besides involving principles of reasoning, are that it is broad, involves commitment to the standards inherent in a given type of inquiry (e.g., the scientific method), is transformative, and involves "cognitive perspective." By these terms, he invites us to consider and assent to the suggestion that being a brilliant scientist or a brilliant musician, while admirable in itself, is not the same thing as being well educated, essentially because it is a narrow proficiency, whereas we expect a well-educated person to have a range of understanding across a broad spectrum. Knowing much science but being unconcerned about the proper conduct of scientific inquiry and uninterested in whether scientific claims are legitimately grounded is another mark of a less than successfully educated person, and to acquire knowledge but allow it to rest "inert" in one's mind, available for regurgitation when required, but otherwise meaningless in that it does not inform or affect one's outlook on life in any way, is to be well informed rather than well educated. Similarly, to acquire various items of knowledge but to keep them compartmentalized in such a way that one's philosophical understanding, say, does not cross-fertilize and inform one's scientific understanding, or one's historical understanding fails to actually inform any of one's other dealings in life, is again to suggest one is well informed rather than well educated.

Of course, Peters has not proved these points in the manner of the scientist or mathematician, but then these are not scientific or mathematical claims. The question is whether, given that *education* is a value-loaded term referring to the development of understanding, we agree on reflection that these are broad conditions that we would want to write into the concept. Looked at in that way, it is hard to see who would wish to dissent—who, that is to say, would wish to argue,

> My conception of education is such that I want my children to have a narrow range of understanding, to let their knowledge lie inert, to be unmoved by the rules of scientific or philosophical thinking, and to be indifferent to the interrelationship and the illumination that various subjects may shed on each other. In my view, an educated person should be narrow of mind and unaffected by their understanding.

The final point made is that the understanding that the educated person possesses should be worthwhile rather than trivial or merely commercial. Here we enter new territory, for while few will dispute that the knowledge should be worthwhile, clearly people do dispute about what knowledge is worthwhile. Peters's approach was to argue for the importance of the basic building blocks of knowledge generation, such that educated persons are those whose understanding of things such as science, math, and philosophy empowers them to continue to expand their understanding and enables them to make wide and fundamental choices about how to live. Peters's own work was here considerably abetted by the work of many of his colleagues (the so-called London line), including Paul Hirst's (1974) work on forms of knowledge, Robert Dearden's (1968) work on autonomy, and John White's (1973, 1982) work on giving people the wherewithal to make their own life decisions.

Today, the catchphrase that most obviously encapsulates a similar conception of education is "development of critical thinking." But one must be cautious; while Peters would certainly have agreed that the educated person should be a critical thinker, many of those involved with the critical-thinking business—and this takes us right back to the beginning—appear to have given no thought to their conception of a successful education. For them, critical thinking is seen as little more than adopting a set of mechanistic procedures—devoid of reference to, and in practice divorced from, any particular range of worthwhile subject matter.

The ultimate value of having a clear concept of education is that it provides the road map for all further inquiry: Without such a concept, we do not know what would count as success and we do not know where we are going. Talk of "educational standards," for example, is meaningless unless placed in the context of a convincing conception of education. It also enables us to note subtle distinctions between education, training, and socializing, which, in turn, allow us to see that a lot of so-called educational proposals are not in fact educational at all. This is a matter of great practical importance, for failure to make such distinctions often leads people to make

suggestions that may be important but do not actually contribute to education. Teaching people to drive, for example, may be a useful thing to do but it clearly has nothing to do with educating them.

Perhaps the discussion above will lead some to say that they are not interested in education so much as, say, training in marketable skills, socialization, or developing self-esteem. But that is preferable to the current state of affairs in which we do not realize that we are arguing about different things. Distinguishing between education and socialization or training in this way also enables us to distinguish between the ideal of developing ourselves as individual persons, as human beings, on the one hand, and regarding people as merely economic or social units on the other; and perhaps most important of all, it stops us from forgetting or ignoring the former in our increasingly materialistic world.

Robin Barrow

See also *Bildung*; Continental/Analytic Divide in Philosophy of Education; Peters, R. S.; Scheffler, Israel; Wittgenstein, Ludwig

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Education, Transcendental Justification of

Transcendental arguments are basically philosophical responses to *skeptical* claims or arguments. Skeptical arguments are sweeping metaphysical claims to the effect that certain common assumptions about the world as ordinarily apprehended or experienced are either mistaken or (more commonly) without any possible rational foundation. Thus, for example, major philosophers have doubted that human agency can ever be (in any sense) free—whether (we can know that) there are other minds besides our own or, most notably, whether there is any external world of objects or facts corresponding to our apparent perception or experience of such a world. Arguments of a broadly transcendental character are a priori or conceptual claims—in other words, claims or arguments that do not depend on empirical evidence—aiming to show that such skeptical conclusions are logically incoherent, usually by virtue of assuming or presupposing what they purport to deny. An early example of this broad strategy can be found in Socrates's attempt to refute the claim of Protagoras, that since all so-called knowledge is based on subjective perception or sensation, there can be no such thing as objective (mind independent) truth. Plato points out that this (skeptical) claim seems paradoxical, since, if we agree to it, then we are effectively accepting that it is *true*—in which case, it is *false* that there is no truth.

What have usually gone under the name of transcendental arguments, however, are more commonly associated with the great Enlightenment philosopher Immanuel Kant, who sought, above all, to refute David Hume's skepticism about the possibility of objective knowledge of the world of experienced reality. Hume doubts that our experience of a world of real objects and events ordered by relations of cause and effect—or at least our claims to knowledge of this—can ever be rationally justified. Like Protagoras, he claims that it is not in principle possible to get beyond "subjective" human experience to any rationally justified knowledge of "external" or "objective" reality. Kant's classic transcendental arguments are concerned to show that any such position is riddled with incoherence and inconsistency. One major Kantian point against Hume's skepticism is that even to insist that our experience of the world is "subjective" rather than "objective" is (implicitly) to presuppose distinctions between the "subjective" or "internal" and the "external" or "objective" to which the skeptic is hardly entitled. In this regard, Kant is usually credited with having pioneered arguments (much employed by later analytical philosophers) from "polar opposites." For the skeptic to argue that *all* experience is "subjective" or

"psychological" is rather like arguing that *all* currency is counterfeit: For just as the idea of counterfeit currency relies on a contrast with *real* money, so any coherent talk of subjectivity surely presumes some contrast with what is objective or precisely *no*t subjective. Put another way, if all experience is subjective, then *none* is. At all events, Kant's transcendental arguments seek to identify or expose the conceptual presuppositions—of objectivity, identity, and causality—common *both* to familiar claims to knowledge *and* any and all skeptical doubts about the possibility of such knowledge.

In modern analytical philosophy of education, transcendental arguments have been employed—mainly, as might be expected, by educational philosophers manifestly influenced by Kant—for two main purposes: first, for the rational justification of the practice of education as such and, second, to support or justify a particular educational curricular content that prefers or prioritizes the teaching of some kinds of knowledge and activity over others. The first of these issues is given high profile by the chief architect of postwar British analytical philosophy of education, R. S. Peters, who is precisely concerned—in an explicitly Kantian way—to refute any skeptic who seriously questions the value of education. The gist of this issue—to simplify an often complex, digressive, and not notably pellucid literature—is that any such skeptical questioning of the value of education must presuppose some commitment to the human value of rationality of the kind that education is precisely in business to promote. The key point is that any serious question—such as about what one should do or how one should spend one's time—must be a request for reasons for doing this or that which demand rational and informed (or rationally informed) answers. This rather general argument about the value of reason is then (variously) developed in the direction of the second point that to be capable of serious rational response to any (skeptical or other) question one needs to be equipped with certain very specific kinds of intellectual resources of knowledge and understanding.

At all events, it is against this background that certain highly influential "a prioristic" approaches to curriculum theorizing emerged in the latter half of the 20th century. Such views were "a prioristic" precisely insofar as they saw no need to appeal to empirical contingencies—of individual psychology or socioeconomic circumstance—in order to determine the basic content of any educationally justifiable school curriculum. On the contrary, the main constituents of any defensible school curriculum could be deduced or determined—in something very like Kantian fashion—as the necessary constituents or ingredients of any conceivable *full* human rationality (insofar as reason was also held in the manner of Aristotle and Kant to have diverse purposes). Thus, on perhaps the most influential version of such curriculum theorizing—the so-called forms of knowledge thesis developed by Peters's colleague and collaborator Paul Hirst—a genuinely educational school curriculum should aim to promote the forms of logical/mathematical, natural scientific, human scientific, moral, aesthetic, philosophical, and religious knowledge and understanding (variously packaged in school "subjects") fundamental to and/or constitutive of human rationality. Although Peters's use of transcendental argument to refute the educational skeptic has attracted its fair share of criticism, it would appear that such "a prioristic" curriculum theorizing has drawn most of the fire—mainly from "poststructuralist" and "social constructivist" educational philosophers who insist (much in the spirit of 19th-century post-Kantians) that there can *be* no such necessary forms of human rationality. However, while it is likely that both sides of this case have been unhelpfully overstated, this cannot be pursued further here.

David Carr

See also Kant, Immanuel; Knowledge, Structure of: From Aristotle to Bruner and Hirst; Peters, R. S.

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Education Production Functions

Education production functions are an application of the production function concept from economics to educational outcomes. Production functions relate the output produced to the inputs used and were first proposed as descriptions of manufacturing and agricultural processes in the late 19th century. Applications to educational outcomes and institutions began in the late 1960s. Initially, traditional economic concepts such as economies of scale were investigated, followed by estimates of economic efficiency for different educational institutions from elementary schools to colleges and universities. A major finding is that socioeconomic characteristics of students appear to influence educational outcomes more than the resources available to institutions do, although measurement problems confound efforts at general conclusions. This entry describes the development of production function techniques in economics and then reviews their application to educational outcomes at the elementary, secondary, and higher education levels.

Cost and Production Functions in Economics

The idea of production functions, in which the output produced by a production process is expressed as a mathematical function of the inputs used, was first developed in the late 19th century. A major innovation was introduced in the mid-20th century with the development of duality theory. Duality theory demonstrates that any production function with certain common mathematical characteristics will generate a dual cost function with other known characteristics. This cost function relates the cost incurred in production to the quantity of output produced and the prices of the inputs used. As a result, researchers can discover the underlying characteristics of a production technology by direct estimation of a production function or indirectly through estimation of a cost function. This allows the researcher to choose a cost or production approach based on data quality and availability.

Further development of computer hardware and econometric software in the 1960s, along with the discovery of flexible functional forms, made the estimation of production relationships feasible to a wide range of researchers. Flexible functional forms take their shapes from the data and impose minimal constraints on the shapes or characteristics of the estimated functions. Two of the most popular forms are the quadratic and the transcendental logarithmic, or trans-log, a quadratic in the logarithms. Production or cost functions of these forms were initially estimated by parametric methods based on linear regression analysis. The resulting estimated functions revealed characteristics of the underlying production technology, such as the degree of economies of scale or scope and the ease of substitution among the inputs.

Production and cost approaches both had particular strengths. Estimated production functions directly yield relationships among the inputs and the outputs but cannot be used in cases of multiple outputs. Cost functions can handle multiple outputs but require input prices to be estimated.

Development of frontier methods in the late 1970s and 1980s allowed the measurement of efficiency across establishments. Previously, cost and production functions were limited to estimates of the average or mean production characteristics of the establishments for which data were available. Frontier methods estimate the efficient production possibilities or cost frontier based on the most efficient establishments in the data and generate estimates of (in)efficiency relative to this frontier for the less efficient establishments. Economies of scale and other characteristics of the efficient frontier are also generated.

Two new econometric methods were also developed to estimate cost or production frontiers. Stochastic frontier estimation is a parametric, regression-based method that allows for deviations from the frontier due to random events as well as deviations due to differences in efficiency. Data envelopment analysis (DEA) is a nonparametric method based on linear programming that assumes that any deviations from the frontier are due to inefficiency alone. The strength of stochastic frontiers is its ability to account for random factors, but its weakness is that the estimation program may fail to converge when there are large numbers of inputs or outputs involved. DEA, in contrast, can handle large numbers of inputs and outputs but cannot account for the effects of random events. Neither method is ideal, but both methods have their proponents.

Applications to Education Production

Elementary and Secondary Education

Application of cost and production function estimation to data on schools quickly identified several fundamental difficulties. First, resources in the form of inputs or expenditures were only weakly related to measures of student achievement (output), if at all. The tendency for poorly performing schools to receive more funding, called simultaneity bias by economists, contributed to this finding. Moreover, even these weak links between resources and outcomes often disappeared when family background was taken into account. This pointed out the importance and the difficulty in measuring differences in ability and social capital across students. Unmeasured ability, social factors in the home environment, and the characteristics of peers were identified as potential contributors to these results.

Other measurement problems over and above the difficulties associated with ability measurement were also identified. The output measures, for example, are often test scores on standardized tests. These can be unreliable indicators of performance and are typically incomplete, assessing math and reading skills, for example, while ignoring science and civics. Furthermore, test scores are an imperfect measure of the *value* of education. Studies that examine the relationships between test scores and the adult wages of former students find little or no statistically significant connection.

Furthermore, simultaneity or endogeneity problems also cropped up. The observed correlation of student outcomes with teacher experience, for example, may reflect the ability of more senior teachers to choose assignments at schools with better resources or that serve higher-achieving student populations. If wealthier students stay in school longer and earn more later in life because of their family connections, independent of their education, while also demanding smaller class sizes, then a spurious correlation could be observed among school resources, educational attainment, and earnings. The attraction of stronger students to schools with greater resources could generate similar spurious associations.

Despite these difficulties, the literature on educational production grew along two paths. In the first, a single performance measure (test scores) is related to school district level inputs and student demographics. Parametric or nonparametric (DEA) frontier techniques are used to construct relative efficiency measures from the output and input data, and these (in)efficiency measures are then regressed on demographic variables. Variations in the demographic variables are found to "explain" the variations in relative (in)efficiency. Some studies invert this process, relating expenditures per pupil to test scores and demographic variables, with essentially comparable results.

The second path relates performance measures to political variables (local vs. state control, school or district choice, unionization) as well as to demographic characteristics. Variables reflecting the degree of local control and/or ability of individuals to choose among various school districts are positively related to test scores and negatively related to expenditures, leading some to conclude that competition makes schools more efficient.

Consequently, what we know about elementary and secondary educational productivity is limited and subject to many qualifications. Higher-ability or better-prepared students appear to score higher on tests. Variations in educational inputs do not appear to influence test scores or expenditures per pupil as much as do variations in the demographic backgrounds of students. Institutional settings in which households may choose among public educational providers are associated with higher test scores and lower per pupil expenditures.

Higher Education

Parallel to applications of educational production function methods to elementary and secondary schools were similar applications to colleges and universities. Initial studies of higher education, however, were not so concerned with student outcomes as with the use of resources, often emphasizing economies of scale and using output measures such as numbers of students or full-time student equivalents. Frontier methods allowed researchers to investigate the relative efficiency of higher education institutions but quickly confronted problems in measuring the relevant outputs.

Initially, this involved measurement of the teaching and research functions that led to difficulties in distinguishing quality differences across institutions. Similar measurement problems soon arose with respect to the quality of educational programs in various fields, the quality of student peers, and the value of sports and extracurricular programs, not to mention the quality of student outcomes. Input quality measurement issues also arose with respect to faculty and facilities, including dormitories.

Institutions with medical and professional schools or large numbers of graduate students further complicated efficiency comparisons.

After 2000, the emphasis of higher education production studies shifted toward student outcomes and pricing. Unlike schools in the lower grades that are often tied to geographic districts, colleges and universities operate in a differentiated product market setting over wide geographic areas in which students choose institutions for their programs as well as prices and other activities. The rising price of college educations prompted researchers to examine the performance of institutions with respect to outcomes such as graduation rates and prices rather than costs.

The diversity of higher education institutions permits little summarization of results. Community colleges are the lowest-priced institutions and may appear efficient but are lower quality. Large flagship public universities often score high on affordability and quality, but this may be due to state subsidies. Private colleges and universities often have particular programs that are high quality, or offer smaller class sizes, but their higher prices and smaller range of degree offerings often cause them to appear less efficient.

Given the public's interest in encouraging more students to pursue higher education and the difficulties in measuring quality, future research in higher education is likely to focus more on affordability (pricing) of institutions and performance measures such as graduation rates and student success after graduation.

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See also Abilities, Measurement of; Coleman Report; Higher Education: Contemporary Controversies; High-Stakes Testing; Quality of Education; School Choice

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Educational Measurement and Assessment

See Abilities, Measurement of; High-Stakes Testing; Intelligence: History and Controversies

Educational Research, Critiques of

Well-warranted critiques are fundamental to sound research. While much critique focuses on single studies or sets of studies (via peer review), the focus of this entry is on broader critiques of the field of education research, of different approaches within the field, and of recommendations for what the field should become. Different "approaches" to research can be defined variously by substantive area, by discipline, by methodology, by philosophical perspective, or by some combination of these. Sometimes, critiques of education research are explicit; sometimes they are implicit in recommendations for reform; and critiques of both types are considered here. All are historically situated, responding to a particular set of circumstances at a particular time, and are best interpreted in light of those circumstances.

During the past few decades, the nature and quality of educational research has been the subject of much debate around the world, most notably in Australia, New Zealand, Western Europe, the United Kingdom, and North America; similar issues have been aired in these diverse literatures, scholars from diverse intellectual traditions have been involved, and in many countries, the debates have become politicized. This entry will focus on a selection of key critiques (and recommendations) surrounding what has been called "the education

science movement" published between 1999 and 2012 in the United States (but many of these sources have been cited internationally and reflect themes that are prominent in debates elsewhere). The discussion will include critiques reflected (a) in the U.S. Department of Education's (ED) evolving priorities and implementation strategies, (b) in federal legislation defining "rigorous" or "scientific" research, (c) in reports from expert committees or advisory boards assembled to advise the ED and Congress at different points in time, and (d) in published responses to these documents from scholars in the field of educational research. Interrelated critiques from these various sources will be presented in a chronologically ordered narrative. Key issues underlying the debate reflected in these documents include the following: whether science or rigor can be defined in terms of particular methods; whether randomized experiments reflect the "gold standard" for education research or, more narrowly, research addressing questions about "what works?"; how the particularities of local contexts should be taken into account in conducting and using research; what role the federal government does and should play in setting research policy; how education research can be made more relevant and useful to policymakers and practitioners; and what the appropriate role of science in education practice should be.

As illustrated below, common words such as *rigor*, *utility*, *relevance*, and even *science* are used in different ways in different critiques. To understand what the word means in a given critique requires careful reading of the elaborations and examples—where they are provided. Furthermore, there are often competing interpretations of the same critique and of the phenomena that are being critiqued. The goal of this entry is to provide as fair an overview as possible of the issues reflected in a range of published critiques of education research (1999–2012), briefly illustrating those critiques with close paraphrases from selected texts and foregrounding themes and differences among them. Any evaluation of how well warranted or fair the critiques are is beyond the scope of this entry.

Critiques of Education Research From Expert Panels (1999)

In 1999, three expert panels published separate reports intended to advise ED and Congress on research policy and priorities. These reports are from the National Research Council (NRC)—an arm of the National Academies of Science and Engineering and the Institute of Medicine; the National Academy of Education (NAE); and the National Education Research Policy and Priorities Board (NERPPB)—the members of which were appointed by the secretary of education. It is important to note that the NRC and NAE panels were established by independent scholarly organizations intended to be free from political interference. While these reports had somewhat different emphases, they foregrounded many of the same themes in their critiques and recommendations. Each grounded their critiques in an acknowledgment of the potential of education research and complexity of the education enterprise to which it contributes.

The NRC panel argued that the potential of education research had not been realized: The existing research base was underused and inadequate and educational policy decisions were often based on personal experience and ideology. They noted that only a few lines of research had been sustained for the time needed to bring them to fruition. They attributed this in part to the complexity of the education enterprise and in part to underinvestment and insufficient resources, to lack of focus in research investments, and to difficulties in translating research to inform practice. Their recommendations for a strategic education research program (SERP) included the establishment of networks of researchers, in partnership with practitioners and policymakers, focused on a limited number of topics of crucial importance to students' learning. They called for combining insights from many fields, including those that addressed cognitive functioning, social processes, and organizational change, and for deploying a full array of research methods. They called as well for involving practitioners and policymakers in helping define problems, devise solutions, and monitor the effects of research-based programs to make integration of research findings a routine aspect of education practice. The SERP proposal was extended and further specified by NRC in 2003.

The 1999 NAE and NERPPB reports reached similar conclusions about the need for greater investment in education research, for a problem-focused research agenda that resulted in cumulative and sustained lines of research, and for enhancing the use of education research by practitioners and policymakers, although they foregrounded somewhat different critiques and recommendations.

The NAE report, which was commissioned by the NERPPB, raised the concerns about research that

studied students' and teachers' learning isolated from contexts and from efforts to improve educational processes. The authors explicitly criticized the linear assumption that "researchers produce knowledge about general principles, program developers apply that knowledge in design of instructional materials and programs, and local educational professionals implement those programs," citing problems of translation among these various communities. They called for a new model of the relationship between education research and improvement focused on solving specific current problems of practice and, at the same time, developing and testing general principles expected to apply more broadly.

The ED's NERPPB report, which cited the NAE report, differed somewhat from the other two reports by including "weak designs and measures" and disagreements among researchers as contributing to concerns about the adequacy and the usefulness of education research. The board called for more rigor in education research through defining appropriate research designs (that included randomized experiments and other designs involving control group methodology when randomization is not possible) and improving the quality of peer review panels and procedures. To enhance the impact of education research, they called for better means of translation and dissemination, including reliable research syntheses, for shared accountability between researchers and practitioners in improving research practice but not (at least to the same extent) for practitioners sharing in the research process as the NAE and NRC reports had done.

Implied Critiques of Education Research in Federal Legislation (1999–2003)

Federal legislation between 1999 and 2003 attempted to enhance the use and conduct of research in more specific ways than recommended by the expert panels. The 1999 Reading Excellence Act and the 2001 No Child Left Behind Act (NCLB) focused on enhancing the *use* of research: Both required those who purchased instructional programs with federal funds authorized under these acts to use programs that had been evaluated using scientifically based research (SBR). While the definition of SBR in the Reading Excellence Act was quite general—using terms like *empirical methods* and *rigorous data analyses*—the definition in NCLB was considerably narrower. The definition of SBR in NCLB named "experimental and quasi-experimental designs in which individuals, entities, programs, or activities are assigned to different conditions and with appropriate controls to evaluate the effects of the condition of interest, with a preference for random-assignment experiments." This definition has been credited with elevating randomized controlled trials to a perceived "gold standard" for education research and rigorous science, a controversial issue addressed below.

The bill proposed to reauthorize ED's Office of Educational Research and Improvement (OERI), commonly called "the original Castle Bill," shifted the legislative prescriptions regarding SBR to researchers themselves. The proposed language limited research programs that could be funded to those that fit within the bill's definition of SBR. The definition listed methods separately for qualitative and quantitative research, foregrounding experimental and quasi-experimental design for quantitative research and associating qualitative research primarily with traditions historically based in the humanities. The bill described qualitative methods as "intended to explore issues and hypotheses whose underlying dynamics and factors are not sufficiently well refined, understood, or amenable to experimental control to permit adequate study through quantitative research." Ultimately, the 2002 Education Sciences Reform Act (ESRA), which replaced OERI with the Institute of Education Sciences (IES), offered a somewhat revised definition of SBR. The ESRA contained a single definition of SBR that did not distinguish between qualitative and quantitative SBR, that called for methods to be appropriate to the research questions posed, and that limited the call for random assignment experiments (or other designs that eliminate rival explanations of effect) to research addressing causal questions. These differences have been attributed by some to the influence of a widely cited 2002 NRC Report, *Scientific Research in Education* (*SRE*).

NRC's 2002 *Scientific Research in Education*

At the invitation of the ED's NERPPB, the NRC assembled a committee to address the question of what constitutes scientific research in education. The committee published its report *SRE* in 2002. The *SRE* authors responded critically to the proposed legislation in the original Castle Bill to reauthorize OERI defining SBR in terms of methods. They argued that mandating a list of methods erroneously assumed that science is mechanistic and that

procedures can be prescribed. Against this vision, they argued that it was the self-regulating norms of the scientific community that enable scientific progress. The authors argued further that qualitative and quantitative research are quite similar epistemologically (i.e., in terms of their conceptions of knowledge), that both can be pursued rigorously, and that the research question being pursued should determine the methods used. In response to their charge, *SRE* authors offered, instead, a set of guiding principles that they argued underlie all scientific research. Those engaged in scientific research

1. pose significant questions that can be investigated empirically,
2. link research to relevant theory,
3. use methods that permit direct investigation of the question,
4. provide a coherent and explicit chain of reasoning,
5. replicate and generalize across studies, and
6. disclose research to encourage professional scrutiny and critique.

The authors highlighted the importance of attending to the particulars of contexts in addressing the extent to which theories and findings may generalize to other times, places, and populations. The report named three important types of research questions: (1) What is happening? (2) Is there a systematic effect? (3) How or why is it happening? In a cumulative program of research, only the second of these was best pursued by way of experimental designs. However, *SRE* arguably privileged programs of research that culminated in the establishment of replicable causal effects (idealized in randomized experiments) and positioned "descriptive studies" as preliminary or supplementary to this task. *SRE* also offered a set of design principles for fostering science in a federal education agency that are intended to nurture a scientific culture. Thus, the report offered policymakers an expanded and more flexible conception of science, one that locates authority for scientific rigor within the scientific community and that envisions an important role for certain types of qualitative research within a comprehensive and cumulative research agenda.

IES Critiques and Priorities (2003–2008)

While the differences between the ESRA's definition of SBR and that in the original Castle Bill have been attributed to the influence of *SRE*, the priorities proposed for the IES in 2003, articulated in the IES director's first Biennial Report to Congress (2005), appeared to give the game away. They privileged cause-and-effect studies, especially randomized experiments, and IES launched an aggressive program to increase the prevalence of such studies.

As articulated in his Biennial Report to Congress (2005), the IES director, Grover J. (Russ) Whitehurst, saw education research as badly in need of reform. Briefly citing the 1999 NRC report, he critiqued education research in terms of its rigor, relevance, and utility. For rigor, he asserted that "far too much research is based on methodologies that cannot support the questions that are addressed" and offered as general examples interpretive and qualitative methodologies and correlational studies that drew (inappropriately) causal conclusions. He then called for rigorous analyses of cause and effect using randomized trials and related methods. For relevance and utility, he called for research that addressed practical problems of policymakers and practitioners and that made results available to users in easily understood forms. Again, cause-and-effect studies were foregrounded as those most relevant and useful to practitioners.

The priorities outlined in the report to Congress were aggressively implemented within IES's scope of authority. These were reflected, per the director's reports, in funding announcements, guidelines for peer review, and funding decisions; in federally funded training programs for researchers; in guidelines for research syntheses developed by the federally funded What Works Clearinghouse, which was intended to make the results of rigorous cause-and-effect studies easily available to practitioners; and, as discussed in the report to Congress, in "differential consequences for decision makers whose choices are or are not grounded in evidence."

A 2008 evaluation commissioned by the National Board for Education Sciences (the IES advisory group that replaced NERPPB) confirmed that IES has succeeded in increasing the proportion of efficacy and scale-up studies that met the department's methodological standards for causal inquiry. This supported their conclusion that rigor had been enhanced. Thus, rigor became equated with cause-and-effect studies idealized in randomized experiments. This was a substantially different outcome from what had been proposed by the 1999 NRC and NAE panels, both with respect to the role of policymakers and practitioners and the cumulative problem-focused orientation that drew productively

on multiple methodologies. With respect to relevance and utility, the authors of the National Board for Education Science report noted increased access and dissemination but suggested that the evidence based on knowledge utilization by practitioners was insufficient to draw conclusions. The priorities and policies of IES clearly had some impact on the shape of the field and led to a new round of critiques.

Scholarly Critiques of Federal Legislation, *SRE,* and IES Priorities and Policies (2002–2009)

Following the publication of the NRC's *SRE* and the dissemination of IES's priorities, a number of scholars offered critiques of the visions of education research reflected in those documents and enacted in IES's agenda. Some saw *SRE* and federal efforts as quite distinct, with the *SRE* defending the autonomy of the scientific community against methodological prescription; others saw these efforts as part of the same federal overreach (NERPPB had funded NRC to develop *SRE*) into the practice of education research.

To provide a sense of the range of critiques, this section is organized by selected topics on which different scholars took critical positions, beginning with the role of randomized experiments in causal research, the so-called gold standard; then addressing alternative approaches to research; and finally turning to the relationships between the research community and other stakeholders (including education practitioners, policymakers, the federal government, and the public).

Critical commentaries surrounding IES priorities, federal legislation, and *SRE* were published in special issues of four journals shortly after the publication of *SRE*, and these journals have continued to publish critical commentary from time to time: *Educational Researcher* (2002), *Educational Theory* (2005), *Qualitative Inquiry* (2004), and *Teachers College Record* (2005). Readers can locate articles by proponents of various perspectives in these journals, beginning with the special issues on *SRE* cited, and searching subsequent issues for key citations (e.g., of *SRE*) or terms used in the debate (e.g., "gold standard," "scientism") or by reading one of the general reviews listed at the end of this entry ("Learning From Our Differences" or *Education Research on Trial*).

Randomized Experiments, the Gold Standard, and Causal Inquiry

One major issue that arose focuses on the extent to which randomized experiments represent a "gold standard" for causal research or scientific research more generally. Does an increase in randomized experiments signal a move toward rigor? Randomized experiments assign persons or other units of analysis randomly to groups that do and do not experience the intervention. The goal is to allow researchers to attribute postintervention differences between groups on an outcome or effect to the intervention and not to alternative factors that might otherwise explain the outcome (e.g., that the groups differed to begin with in ways relevant to the outcome).

Some read federal legislation and IES priorities as implying that randomized experiments represented the gold standard for scientific research, whereas others, including the authors of *SRE*, saw randomized experiments only as ideal for research addressing causal questions. They acknowledged that there were other ways of addressing causal questions and other types of questions that could and should be rigorously pursued with alternative methods. Some noted that randomized experiments were often difficult to mount, for both practical and ethical reasons, and called for other research designs—quasi-experiments—that used other means to control factors other than the intervention that might explain the effect. Some noted further the importance of alternative methods—survey research, qualitative methods of various sorts—to complement experimental designs supporting, for instance, questions about the extent to which an intervention was implemented as intended or about the mechanisms that led from the intervention to the effect. Some argued further that causal questions could be rigorously—perhaps more rigorously—addressed through qualitative research by tracing these mechanisms and by examining the myriad local factors that mediate the relationship between a treatment and an effect (e.g., a school's administrative policies or resources; the press for achievement evident in the school's culture).

A related issue was whether or not multimethod programs of research should be expected to culminate in causal studies of systematic effects as *SRE* was interpreted to conclude. Given the complexity of social phenomena, including those relevant to education, generalizations about which interventions "work" were seen by some, at best, as hypotheses for any given school or classroom. Examples were cited showing interventions that produced an effect in one context but failed to produce the same effect in another. To understand how an intervention works, it was argued, requires an understanding of

the sense people make of it, individually and collectively, and the ways in which it interacts with other features of their environment to shape their practice. Some questioned whether causal inquiry is appropriate at all for social inquiry, given the power of local contexts to shape understanding and practice. These scholars called for somewhat different approaches to education science or research.

Alternative Approaches to Education Research

Another key issue was whether this vision of science put forth in *SRE* adequately addresses the complexity of social phenomena. While most scholars, including the authors of *SRE*, acknowledged the importance of understanding human intent and meaning and the role of local contexts in education research, the question is what this implies about how science or research should be conceptualized. Are the generalizing goals of science (systematic effects) privileged by *SRE* adequate or even appropriate for the human or social sciences?

By offering a single set of principles that "underlie all scientific inquiry," the *SRE* panel had taken sides on a long-standing debate in the philosophy of social science about whether or not the social sciences should approach the study of social phenomena in the same way the natural sciences have approached the study of natural phenomena. For example, those who take what is sometimes called an interpretive approach to social science argue that social phenomena differ from natural phenomena because they are meaningful to the actors involved. Furthermore, meanings are seen as embedded in complex social contexts that shape (enable and constrain) what can be understood, sometimes in ways that the actors involved may not perceive. From this perspective, a primary aim of social science should be to understand what people mean and intend by what they say and do and to locate those understandings within the historical, cultural, institutional, and immediate situational contexts that shape them. This conception calls into question the meaningfulness of generalizations about what works, including how science works to inform practice! These scholars called for the development of theory that would address why and how local context matters. Conceptions of generalization or relevance should be expanded to include how researchers and practitioners could learn from always partially unique cases of practice that did not gloss over contextual differences as studies of systematic effects did.

Some questioned further the all-consuming press for SBR, arguing that the arts and the humanities, including philosophical analyses, offered important contributions to education research or scholarship and deserved more emphasis than they had received in *SRE*.

While some critiques called for diversity in the practice of education research, a different set of critiques raised the concern that fragmentation within the field limited the ability of researchers to develop a cumulative research agenda addressing key educational problems. One set of authors called for a deeper understanding of the networks through which researchers build on each other's work to enhance collective practice. Another called for data sharing to support replications. Many foregrounded the role of dialogue among researchers across different approaches to research to promote mutual understanding and collaboration and pointed to important roles for higher education and research organizations, alongside the federal government, in promoting such understandings. Some saw this as a move toward a much-needed consensus on what counts as good science; others framed the role of dialogue as providing an opportunity to learn from different approaches in addressing educational problems.

Some scholars thought that the authors of *SRE* has accepted their charge too uncritically, treating research as a neutral, technical enterprise that could provide clear answers to educational problems. Against this "white coat" view of science (sometimes referred to as "scientism"), these scholars called for a more realistic view of what scientists do and of how science influences and is influenced by education policy and practice. Some argued that scientific practice could only be evaluated from inside a particular approach or domain. This called into question the meaning of the generalizing critiques of rigor in education research writ large and even of generalizing principles, like those in *SRE*, since terms like "significant questions" or "generalizations" take on different meanings in different domains. Some raised concerns that *SRE*'s vision of science did not illuminate the ways in which scientific practice was shaped by social relations and structures inside and outside the field. *SRE*'s blanket rejection of "postmodernism" as unscientific was criticized for failing to adequately represent the meaning of the term to those whose work might be located within it and also for rejecting a constellation of approaches to research intended to ferret out issues of power and

politics. A rigorous approach to science, it was argued, can and should illuminate the social forces that shape scientific practice. Rejecting alternative approaches out of hand risks limiting opportunities for critical reflection and innovation.

Relationship Between Researchers and Other Stakeholders

A closely related set of issues focused on the relationships between the research community and other stakeholders, including the federal government, practitioners, policymakers, and public. What is the appropriate role for these stakeholders in the research enterprise? How can and should they influence the practice of research? How can and should the practice of research influence education policy and practice?

Many scholars raised concerns about the extent to which IES's priorities and policies were limiting the potential of the field of education research. By aggressively pursuing causal questions presumed to address the needs of policymakers, federal policy was diminishing resources for basic and applied research agendas that might move the field forward—including the agenda of how science actually informs policy and practice. Some saw *SRE* as complicit in federal efforts to mold scientific practice to its own ends. Others, however, saw *SRE*'s arguments as a strategic move intended to maintain an opening for alternative approaches to research in an otherwise hostile climate. Most agreed that the role of the federal government should be to support cumulative research and rigorous peer review of research proposals (consistent with the norms of scientific practice) but not to mandate methods. Some noted, however, that the selection of peer-review panels—and the methodologies with which they are familiar—could also constrain in more subtle ways the methods employed in research that is funded.

Another question concerned the role of practitioners and policymakers in the research process. Some described the press for causal studies of systematic effects as a social engineering agenda that undervalued the role of local educators. By focusing on systematic effects, it risked restricting opportunities for participation in educational decision making by those in the best position to take local circumstances into account. Echoing the 1999 NRC and NAE reports, it was also argued that involving practitioners in the research process, as collaborators and not just as consumers, was a crucial means of enhancing the relevance and the usefulness of education research.

Looking ahead, a 2012 NRC report titled *Using Science as Evidence in Public Policy* called for research on whether, why, and how science is or is not used as evidence in public policy. The framework recommended focused on a broad range of questions and methodologies to understand the complexity of the policy world; these included "understanding the assumptions underlying divergent policy framings, expert judgments, and consensus building techniques"; how practical reasoning is entailed in policy making; and how local contexts can influence the weight given to science through "institutional barriers and cultural resistance . . . and the role of moral and ethical beliefs."

Finally, a number of scholars raised questions about the appropriate role of the public alongside practitioners and policy makers in the research enterprise. These questions dealt with the dissemination and accessibility of education research, the extent to which research should inform and be informed by public debate about educational issues and solutions, and the ends as well as the means of education. Some scholars called for a public debate about the role of science in education, including questions about who gets to decide what counts as knowledge. Some highlighted the tension between scientific and democratic control of education research and practice: As education is a moral and political enterprise, its means and ends require democratic deliberation informed but not determined by science.

Evolving IES Priorities (2009–2012)

In 2009, a new director, John Q. Easton, was appointed to head the IES. This coincided with a change in administration from the conservative Bush administration to the more liberal Obama administration, which may help explain changes in emphases and tone of official policies about research.

As articulated in his first Biennial Report to Congress, the priorities Easton listed foreground relevance and usability by "developing new ways of facilitating the use of research," "building capacity in states and districts to conduct research," "developing a greater understanding of schools as organizations and how they can become learning organizations," and "creating stronger links between research, development, and evaluation." While maintaining a commitment to "rigor," the priorities cite key research questions that cannot

be addressed with cause-and-effect research alone and refer to a range of methods needed to address them. They define rigor in terms of "ensuring that the methods applied are appropriate to the questions asked and the results are valid and reliable." While this is not inconsistent with the first director's report, the elaboration of relevant methods makes it clear that rigor can encompass a wider range of methods and that these are necessary for enhancing relevance and usability. These include questions about how, why, for whom, and under what conditions they are effective. They also include questions that are not necessarily focused on interventions but those that seek to understand the characteristics of high-quality teaching; the processes of schooling through which policies, programs, and practices affect student outcomes; and so on.

These priorities appear to return to the sorts of recommendations made by the 1999 NRC and NAE panels 14 years earlier and began to address some (but far from all) of the scholarly critiques outlined above. Remaining most seriously unaddressed, it could be argued, are those critiques that call for illumination of the sociopolitical forces that shape the scientific practice and the ways in which the scientific practice both enables and constrains democratic deliberation about the means and ends of education.

Pamela A. Moss

See also Case Studies; Causation; Educational Science; Evidence-Based Policy and Practice; Experimental and Quasi-Experimental Designs for Research: Campbell and Stanley; Philosophical Issues in Educational Research: An Overview; Postmodernism; Postpositivism; Qualitative Versus Quantitative Methods and Beyond

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Educational Science

The term *educational science* is an umbrella term, used by educationists on the Continent, that covers research on education from many different paradigms. Following Thomas Kuhn's introduction of the concept of the paradigm, which he originally applied to the natural sciences, it has gradually become increasingly common also in other branches of science to identify several paradigms, each with its own understanding of science and its own concepts and methods. Due to their differing conceptualizations of science, these paradigms cannot be reduced to each other without incurring substantial loss of elements each regarded as essential and distinctive. This has been evidenced by the controversies on positivism, hermeneutics, and systems theory in which the scientific possibilities and limits of each

paradigm have been the subject of much debate. It has become clear that scientific research can only be adequately judged within the framework of the particular scientific paradigm on which it is based. It makes no sense, for example, to use the criteria of quantitative research to assess qualitative research or vice versa. Differing aims, concepts, and methods lead to different kinds of research and insights, which help increase the complexity of scientific knowledge. Transdisciplinary research is only possible if there is reciprocal acceptance of differences between paradigms. This also applies to indissoluble cultural differences between the basic assumptions of scientific paradigms. The management of these differences plays an important role in the globalized world.

The fact that educational science consists of different paradigms leads to a complex understanding of education and science. This is exemplified by the development of educational science in Germany in the 1970s, when educational science developed through the formation of three paradigms: (1) humanist pedagogics (*Geisteswissenschaftliche Pädagogik*), (2) empirical educational science, (3) and critical educational science. This entry discusses each of these three paradigms and their significance for educational science.

Humanist Pedagogics

Humanist pedagogics began to emerge as a discipline in the 1920s, based on the works of Friedrich Schleiermacher (1768–1864) and Wilhelm Dilthey (1833–1911). As a scientific trend, it had become established in the universities and the faculties of education by 1933. Among its most important representatives were Herman Nohl (1879–1960), Theodor Litt (1880–1962), Eduard Spranger (1882–1963), Wilhelm Flitner (1889–1990), and Erich Weniger (1894–1961). After World War II, this tradition was kept alive mainly by the Göttingen school, represented by Nohl and Weniger, where many of the leading scholars of the next generation (e.g., Wolfgang Klafki and Klaus Mollenhauer) were trained. According to humanist pedagogics, the basis of all scientific and theoretical knowledge has always been educational reality and educational practice, and thus, it defines itself first and foremost not as a theoretical discipline but as a practical discipline, characterized by the elements described in the next section of the entry.

Historicity and Culturality of Education and Educational Science

Dilthey emphasized the significance of history and culture and explained how human beings can only gain an understanding of themselves by interpreting history and culture. It is only with the help of the humanities—with their orientation toward history and comprehending human culture—that human beings can come to understand and define themselves. Humanist pedagogics places the emphasis on how history and the humanities are crucial in the shaping of human beings. Following Schleiermacher, humanist pedagogues such as Nohl and Weniger and their followers reasserted Dilthey's acknowledgment of the historicity and culturality of education.

The Significance of Hermeneutics for Educational Science

Based on the works of Schleiermacher and Dilthey, humanist pedagogues became interested in the hermeneutic process of comprehension. Dilthey's attempt to develop hermeneutics as a science of text interpretation (*Textwissenschaft*) and the comprehension of the "objectifications" (or products) "of mind" (e.g., institutions, school programs, educational action, etc.) was furthered by humanist pedagogics, which focused on historical texts as a source of hermeneutic knowledge. Among these texts are the rules, school regulations, biographies, and works of the "great" pedagogues. These were considered important objects of interpretation. The aim was to grasp their meaning in relation to their original contexts and to the history of their effects up to the present day. Insofar as these texts constituted a codification of the objectifications of the mind, interpreting them was expected to help comprehend objectifications of the mind from the period of their origination up to the present day. In humanist pedagogics, this process has been described as the hermeneutics of educational reality. Humanist pedagogics has made historical reconstruction and interpretation its goals and aims to achieve an understanding of educational reality as a significant whole.

Through Clifford Geertz's reception and further development of these ideas about the role of hermeneutics and meaning, in the past few decades, they have taken on an important role in American cultural anthropology. This, in turn, has led to their exerting a great influence on qualitative empirical research in educational science, through their use

in the ethnography of education, an area that has undergone rapid expansion. The 12-year Berlin Study on Rituals and Gestures, which was initiated and headed by Christoph Wulf and included one inner-city school and four fields of socialization, is a well-known example.

The Autonomy of Education and Humanist Pedagogics

Humanist pedagogics examined the question of the relative autonomy of education and educational science from two starting points. On the one hand, Schleiermacher, Dilthey, and Nohl tried to liberate educational science from its dependence on ethics and psychology and, thus, to define it as a specific and autonomous discipline. On the other hand, the relative autonomy of pedagogics had to be defined in order to uphold children's rights in relation to adults and the social groups influencing education.

The Educational Relationship

Nohl wanted to develop a theory of education based on the personal relationship that structures the encounter between teacher and student. In the same spirit, Dilthey had already emphasized that pedagogics can only start with a description of the educator in relation to the student. Dilthey, and humanist pedagogics as a discipline, saw the pedagogical relationship as the core of education. Nohl (1949) described as the basis of education a "compassionate relationship" between "an adult and a developing young person who attains his life and shape on his own" (p. 134). Education therefore occurs in the context of a relationship that exists "for the youth." In this relationship, the educator must defend the youth's individual right to development and self-realization against unjustified external interventions. From here stems the imperative of assuming pedagogical responsibility for youths, with a view to safeguarding their interests.

Theory and Practice in Education

Weniger believed that studying the relationship between theory and practice should provide better understanding of educational practices, their theoretical and political bases, and the practical aspects of education. For him, the object was to build a pedagogical theory that focused on practice and its development. The fact that pedagogical theory takes pedagogical practice as its starting point, and that it interprets and determines it, demonstrates that educational science is in essence a practical science. Pedagogics is understood as a practice for a practice.

Empirical Educational Science

Critical rationalism, as developed by Karl Popper, had a great influence on the epistemology of empirical research. Wolfgang Brezinka, for example, drew on it widely in the program for the "development of pedagogics towards educational science" that he designed in 1972. He developed a concept of the science of education whose purpose he saw as being to acquire knowledge and not to question the conditions under which data are generated or evaluated. Scientists are expected to produce knowledge, not to shape the world or influence human beings. The goal of a science is the investigation and analysis of reality. The unity of science is assured by two elements: first, its definition of its objectives and tasks and, second, the general rules of the scientific method. Defined in these terms, science can be differentiated from other fields of human activity, such as politics, economics, education, art, and religion.

Science is thus defined as a research activity oriented toward gaining insight into reality with the aid of the scientific method. However, conceptualized in this way, educational science cannot fulfill all the tasks to be dealt with in the field of education. Brezinka therefore expanded his program of educational science; in accordance with analytical philosophy, he supplemented educational science with the philosophy of education and practical pedagogics. He then divided educational science in the broad sense into educational theory and the historiography of education. The field of educational philosophy is also subdivided into the epistemology of pedagogical statements and moral philosophy. Practical pedagogics is defined as apprenticeship.

Critical Educational Theory

Breaking clearly with the traditions of humanist pedagogics and empirical educational science based on critical rationalism, another trend in the educational science evolved out of the paradigm of the Frankfurt School of Critical Theory, developed by Max Horkheimer, Theodor W. Adorno, Jürgen Habermas, Herbert Marcuse, and later Axel Honneth. Opposed to the humanist and empirical movements, the new orientation emphasized the social and the historical character of education and relied on a critical theory of society, science, and the subject. According to this perspective, educational

science must include—in its effort to achieve a reflexive self-understanding—an analysis of the social conditions that pertain. Critical theory originated as a negation of traditional thought; its purpose was to criticize bourgeois society and its scientific activity. It helped develop reference points for education and educational science, such as the concepts of enlightenment, emancipation, reification, criticism, society, theory and practice, and recognition.

Critical educational theory strives to be a theory of educational practice that is both of and for practice and includes constant self-reflection and self-criticism. Proponents of critical educational theory, such as Klafki, Mollenhauer, and Herwig Blankertz, saw its main aim as being to establish what is possible under given social conditions in order to ensure success and constant improvement of the education process. Critical education theorists consider humanist pedagogics and empirical educational science to have deficits that leave these paradigms without a basis for conducting a critical analysis of the societal development of education. In their view, ideological criticism is needed to examine the process by which political and economic structures exert an influence on education. Ideological criticism exposes the social conditions of production and calls attention to erroneous rationalizations and the effects of the false interpretations, norms, and theories that result from a deficient understanding of the social situation and of the possibilities of intervening in this situation.

Conclusion

In cognizance of the complexity of child-raising and education, today's educational science encompasses knowledge that investigates educational reality and its deficits, takes a critical stance toward society, and is self-reflexive. It is oriented toward the hermeneutic and quantitative understanding of meaning. To do justice to the demands placed on education in the globalized world, educational science also needs to be founded on anthropology. This means including perspectives from the theory of hominization, philosophical anthropology, historical anthropology, and cultural anthropology in the conceptualization of educational anthropology. Another important task of anthropology in the globalized world is to help children and young people cope with the two major opposing trends toward homogenization and cultural diversity in the educational process.

Christoph Wulf

See also Anthropology of Education: Main Traditions and Issues; Critical Theory; Educational Theory, Nature of; Hermeneutics; Kuhn, Thomas S.; Popper, Karl; Postpositivism

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Educational Theory, Nature of

Educational researchers usually do not give a great deal of attention to the nature of educational theory. In their research, they are focused primarily on working with particular theories that apply to

relatively delimited areas. For example, a great deal of research is done within the context of cognitive developmental theories, or theories about the relation between social class and educational attainment, and so forth, and it is merely assumed that these are *educational* theories.

Among the small number of scholars (including philosophers of education) who are interested in the nature of educational theories in general, two different and only slightly interacting traditions have evolved. One of these reflects Continental interests and ways of conceptualizing matters; the other reflects parallel influences from the English-speaking world. Addressing and comparing both approaches with the topic, this entry reconstructs several conceptions of the nature of educational theory and points to their limitations. The conclusions reached are that educational theory can barely be adequately conceptualized as a *scientific* theory and that it can only cautiously be regarded as a *practical* theory. Nevertheless, in the controversies between these two prevalent conceptualizations of educational theory, a third option has often been neglected, that is, seeing educational theory as a *constitutive* theory.

Educational theory, then, from the perspective adopted in this entry, is an attempt to conceptually constitute education as the formal object of a science of education or of educational studies. In doing so, it maps out the domain of education as a specific problem area and prepares the ground for its empirical investigation. Although a dictionary-type definition like this sounds authoritative, there is an ongoing debate about the nature of educational theory, especially about its relationship to educational practice, about the elements as well as the different types and functions of educational theory, and, finally, about the relationship between theory of education and philosophy of education. Rather than developing a particular theory of education, this entry briefly outlines some general dimensions of any educational theory. It begins by looking at Siegfried Bernfeld's definition of education as a societal response to the fact of child development and at Gert Biesta's identification of purpose, content, and process as constitutive elements of any educational theory. As indicated above, a particular focus of this outline is the distinction between a *scientific* theory, a *practical* theory, and a *constitutive* theory. Finally, it will be argued that by conceptually constituting education as a specific domain, a constitutive theory of education is able to develop a domain-specific theory of education in contrast to the approach of philosophy of education that is usually domain unspecific.

Elements of Educational Theory

Given the plurality of educational theories embedded in different historical and societal settings, talk about "the nature" of educational theory might be understood as an impossible universalistic pretension. Although a universal educational theory might, for good reasons, be unattainable, there are some elements that can be considered as the constitutive minimum of an educational theory.

According to Siegfried Bernfeld (1973, p. 32), education can be regarded as the sum total of a society's reactions to the fact of child development. This approach is universalistic and contextualized at the same time: Education is seen as a universal function of social reproduction across generations; at the same time, the responses to the fact of child development can take on different forms in different historical and societal contexts. Another aspect of Bernfeld's approach is remarkable: By regarding education as a "reaction," Bernfeld establishes that education presupposes the anthropological fact of ontogenesis, or individual development, which education takes up and directs but does not itself cause or initiate. Furthermore, Bernfeld's approach is not restricted to intentional education on the level of personal interaction but also includes functional education in institutional arrangements that are part of a society's reaction to the fact of child development. Summing up, there are at least two necessary elements of any educational theory: an anthropological element (the fact of child development) and a social element (the reactions of a given society).

Although these two elements of educational theory can hardly be disputed, the status of an approach like Bernfeld's is open to question. Does he in fact provide a theory of education or, rather, a definition of education? A nominal definition (sometimes also referred to as a reportive definition) refers to or reports the correct use of words. By nominal definitions, we can, for instance, distinguish between elves, dwarfs, and hobbits; the report can be incorrect, of course, but even if correct, the definition tells us something about language use, not about the world outside language. Another type of definition that also tells nothing about the world is a stipulation by an author that a term is going to be used in a particular way (usually as a matter of convenience) irrespective of the way in which that term is

normally used. A (scientific) theory, however, is not like this—in principle, it can be falsified, for it makes a statement about how some aspect of the world *is*. Yet how could you falsify the assertion that education is the sum total of reactions of a society to the fact of child development?

The harsh opposition between definitions and theories, however, can be conciliated. For in addition to scientific theories that can be falsified or verified (e.g., theories of moral cognitive development), there also are theories that, first of all, constitute the formal object of investigation. For example, in the 17th and 18th centuries, "childhood" was discovered as a particular field of study by constitutive theories that established childhood as a specific stage of life with its own developmental regularities. In a similar way, after the identity of state and society was dissolved, modern political theory established the political system as a functionally differentiated subsystem of society in contrast to premodern holistic conceptions of the field. Consequently, these *constitutive* theories are not simply falsified or verified but rather *differentiated* and *refined* by empirical investigations. Seen in this way, Bernfeld's theory of education is neither a nominal nor a stipulative definition, nor a scientific theory, but a constitutive theory. It reveals education as a real-world phenomenon, not by pointing at isolated interventions and events but by conceiving of education as a complex phenomenon whose generic traits are not visible or tangible and, thus, have to be theorized.

From a formal perspective, Gert Biesta (2006, p. 22) has identified three elements of any educational theory: purpose, content, and process. *Purpose* points to the fact that education implies a form of directed development of childhood in society, as opposed to mere evolution. Although the notion of purpose tends to restrict education to intentional education, one cannot do without a broad understanding of education as a directed process, which implies that this element needs to be reflected in an ethics of education. *Content* hints at the fact that any relationship between learning and teaching deals with a second factor, which is subject matter in terms of knowledge, skills, and attitudes. In premodern societies, education was mainly about learning a specific and relatively limited number of items of knowledge and skill that were considered valuable elements of a given tradition. In modern societies, this factor shifted to a meta-level so that learning to learn, or developing the disposition to gain knowledge and skills, became more and more important. In any case, the content of education also needs to be reflected with reference to normative considerations. *Process*, finally, hints at the fact that education is a specific form of mutual communication over time that takes on a reality of its own. It is not an attempt to make isolated mechanical interventions; rather, it is a process of communicating meaning that is transactional insofar as both those who are involved and the subject matter of their joint attention are changed in the very process of education. Accordingly, the process element of education needs to be reflected in a social theory that captures education as a specific order of interactions.

Although there can be no doubt that purpose, content, and process are constitutive elements of any educational theory, one can ask whether these elements really capture the specifics of education or whether purpose, content, and process are in fact constitutive elements of communicative interaction in general. If we admit that these elements characterize communication of any sort, we still have to flesh out the specifics of *educational* communication. In so doing, we see that two options open up. The first option would claim that there are specific "educational" purposes, contents, and processes. This claim faces severe problems, particularly with regard to purposes and contents. What many consider the ideal ends of education, such as emancipation or autonomy, are not exclusively educational. The same holds true for contents; since there are no contents that are in themselves "educational," the range of possible contents cannot be limited from the outset. Therefore a second option seems to be more promising: The specifics of educational communication are determined not by the elements involved but by the formal structure or grammar that combines these elements in the very process of education. In this approach, the procedural character of education gains center stage. Education is regarded as a specific interaction order that transforms both the purposes and the contents as well as the interacting partners involved in this process. Thus, it becomes clear that education, like any other complex phenomenon, is not adequately described just by listing its elements.

Theory and Practice

Any theory of education is confronted with the question of how it relates to the practice of education. In contrast to theories in the natural sciences, we can find a threefold relationship of theory and practice in education and other social studies. First, the *subject*

matter of the theory is not a natural phenomenon but a practice. Second, a theory may take the form of a "practical theory" that claims to *serve* practice, at least by reflection and analysis. Third, a practical theory may have practice as its *origin* insofar as perplexities within practice may give rise to theorizing the problems at hand. Generally speaking, the latter point is illustrated by the history of educational thought, which shows that an elaborated theory of education is a fairly late undertaking compared with the practice of education, which is as old as mankind. Only when the relationship between the generations was no longer taken for granted and the career of each individual was considered to be a matter of deliberate choice and conduct of life did a need for a theory of education arise.

This understanding of educational theory as a practical theory *of* education and *for* education was the core of the so-called *Geisteswissenschaftliche Pädagogik*, which dominated the German discourse in educational studies into the 1960s. This tradition drew a sharp distinction between sciences and humanities (*Geisteswissenschaften*), and educational studies were considered part of the latter. The notion of a practical theory, however, underestimates the difference between the status of a theory within the practice of scientific investigation and scholarship, on the one hand, and the status of a theory within the practice of education, on the other. In both cases, practitioners may have an implicit "theory" that guides their practice, and in both cases, this "practical theory" may gain some degree of explicitness; a scientific theory, however, claims to have a status different from that of a practical theory. In this vein, William James (1899/1962) has stressed that a practical theory of education is "concrete and ethical," whereas a scientific theory like that of psychology is "abstract and analytic" (pp. 5–6): "Psychology is a science, and teaching is an art; and science never generates arts directly out of themselves. An intermediate inventive mind must make the application, by using its originality" (p. 3). Thus, the divide between a universal and abstract scientific theory and the specific and concrete tasks of educational practice has to be bridged by forms of judgment.

Types of Educational Theory

The critical discussion of the pretensions of a practical theory and the rise of a positivist self-understanding of social sciences has led to a differentiation between different types of theory, particularly between a practical theory and a scientific theory. Following Émile Durkheim (1911/1956), a practical theory is located in a middle ground between a science of education and the art of education. An art is defined as "pure practice without theory," a "system of ways of doing which are oriented to special ends and which are the product either of a traditional experience communicated by education, or of the personal experience of the individual" (p. 101). An art can gain some level of reflectiveness, but for Durkheim, "reflection is not an essential element of it, since it can exist without reflection." Social sciences, like the science of education that was just emerging in Durkheim's time, deal with social facts, including (among others) those pertaining to education. A science "studies these facts to know them, and only to know them, in an absolutely disinterested fashion" (p. 93). Now, a practical theory differs from both an art and a science but takes on an intermediate role:

> Instead of acting on things or on beings in a determinate way, one reflects on the processes of action which are thus employed, not to understand and explain them, but to appreciate what they are worth, if they are what they should be, if it is not useful to modify them, and in what way, and even more, to replace them completely with new procedures. These reflections take the form of theories, they are combinations of ideas, not combinations of acts, and in this they become closer to science. But the ideas which are so combined have, as their object, not to express the nature of things as given, but to direct action. They are not actions, but are closely related to actions which is their function to orient. If they are not actions they are at least programs for action, and in this respect they are like art. (pp. 101–102)

To differentiate between a practical theory in this respect and a science, Durkheim introduces the important difference between pedagogy and the science of education. Pedagogy as defined by Durkheim includes the work of theorists such as Jean-Jacques Rousseau and Johann Heinrich Pestalozzi, as well as most of the literature of progressive education. The object of such practical theories "is not to describe or explain what is or what has been, but to determine what should be" (Durkheim, 1911/1956, p. 99). Interestingly enough, even in the tradition of analytic philosophy, educational theory is ascribed the function of determining and guiding education: "The function

of the theory is to determine precisely what shall and what shall not be done" (Hirst, 1966, p. 40).

Functions of Educational Theory

The discussion of the notion of a practical theory and Durkheim's distinction between types of theories already entailed that a theory may take on different functions. In the natural sciences, theories have a rather narrow but straightforward function; namely, the *explanation* and *prediction* of empirical facts. The Baconean understanding of theory elevates the method of inductive reasoning over that of Aristotelian logic and regards theory as the explanation and prediction of empirical facts; this view still resonates in contemporary social sciences, where, for example, the lure of evidence-based education has gained a tremendous attractiveness among researchers and politicians. Judged by the ideal of a scientific theory in the sense of a hypothesis or a logically interconnected set of hypotheses that have been confirmed by observation, the analytic philosopher D. J. O'Connor (1957) noticed that educational theory comes off rather badly. His conclusion was that in educational contexts, the word *theory* can be only a "courtesy title": "It is justified only where we are applying well established experimental findings in psychology or sociology to the practice of education" (p. 110). On the basis of O'Connor's ideal of a scientific theory, education can be regarded only as an applied field for theories of other disciplines, not as a scientific discipline that draws on its own resources for theorizing education.

Although the educational theorist Paul Heywood Hirst (1966) agreed with O'Connor that education is a "field subject" (Tibble, 1971, p. 16)—a field of practical affairs like engineering or politics that is dependent on theories from foundational disciplines—he disagreed about the function of a theory in educational contexts. Theories of science and theories of practical activities, he claimed, "are radically different in character because they perform quite different functions, they are constructed to do different jobs" (Hirst, 1966, p. 40). The former consists of judgments about what is the case, while the latter consists of judgments about what ought to be the case. For Hirst, the validity of the principles of a rational educational practice must be judged according to the criteria of the relevant foundational disciplines. Thus, for Hirst (1966), educational theory can rightly take the form of a practical theory that is aimed at constituting a rational educational practice. This practical theory, however, must be based on scientific theories provided by foundational disciplines (particularly psychology, sociology, philosophy, and history). The validity of the practical educational theory, then, can only be judged according to the scientific criteria of the foundational disciplines.

> The psychological reasons must be shown to stand according to the strictest canons of the science. Equally the historical, philosophical or other truths that are appealed to must be judged according to the criteria of the relevant discipline in each case. (p. 51)

Beyond the reasons and standards of foundational disciplines, educational theory has "nothing *educational*" (Hirst, 1966, p. 51) to appeal to.

Are there any options for theorizing education that are missed between O'Connor's positivist conception of a scientific theory and Hirst's normative conception of a practical theory? With regard to the ideal of a scientific theory, the anthropologist Siegfried Ferdinand Nadel (1957) has pointed out that "only the most advanced sciences have reached this level of explanatory theory-building" (p. 1). It cannot be precluded that in the field of education there might be scientific theories in the more ambitious sense, but even where explanation and prediction of facts seem to be attainable (e.g., in class-size research), the results are mixed, and a theory in a strict sense is not within reach. According to Nadel, however,

> *theory* can also be understood in another, less ambitious, sense, namely as a body of propositions . . . which serve to map out the problem area and prepare the ground for its empirical investigation by appropriate methods. . . . *Theory* here equals conceptual scheme or logical framework. (p. 1)

These theories are neither scientific theories nor practical theories. Instead, they could be considered constitutive theories that try to map out the problem area in question. Accordingly, a theory of education tries to define the domain of education, not as a marked-off realm of the social world—a "material object" that can be regarded as a given social fact—but as a "formal object" of a science of education that has to be constituted conceptually. The need for theorizing education in this way is apparent, since, as a material object, education is interwoven in different social processes and interactions between newcomers and grownups so

that it can be identified only theoretically or, to be more precise, identified by a constitutive theory.

The function of educational theory as a conceptual scheme differs both from the function of a practical theory and from the function of a scientific theory in a narrow positivist sense. In contrast to the latter, it does not assume that education can be regarded as a given social fact that can be explained and predicted by educational theory. In contrast to the former, a theory understood as a conceptual scheme does not pretend to direct and guide the practice of education. Mapping out the problem area is not directed at the practice of education but at the science of education, since it prepares the ground for the identification of educational problems and their empirical investigation by appropriate methods.

Nevertheless, indirectly, this type of educational theory may have a practical function as well. Not by directing and guiding education in a straightforward way but by (re)conceptualizing education, theory may identify educational problems where practitioners, politicians, and the public have seen none. Thus, theory may contribute to a different way of thinking regarding the tasks and methods of education, which is why educational theory is important not only for the practice of science itself. Because educational theory thus involves communication with practitioners, politicians, and the wider public, a "double hermeneutic" (Giddens, 1987, p. 20) takes hold, which implies that an educational theory does not capture an independently constituted social reality that continues regardless of what this theory is. Like any social theory, educational theory enters constitutively into the world it describes.

Educational Theory and Philosophy of Education

Is the above-mentioned function of a constitutive theory of education adequately captured in philosophy of education? In other words, is there a need for theorizing education independent of philosophy? The question of how theory of education relates to philosophy of education is usually not particularly prominent in the literature. Tacitly, one seems to assume that philosophy of education implies theory of education. In this vein, a handbook article on "What Is Philosophy of Education?" (Phillips, 2010, p. 4) states that "the discussion must start with the nature of philosophy itself—for it should be obvious that individuals holding different conceptions of what constitutes philosophy will give quite different accounts of philosophy of education." Especially in the English-speaking tradition, this is the common approach in philosophy of education; it starts with a detailed analysis of the question as to what the nature of philosophy might be and—in light of answers to that question—addresses the question as to what the nature of philosophy *of education* might be. Often the latter question is not treated in as detailed a manner as the former. Rather, having answered the former question, it is assumed that one has simultaneously sketched an answer to the latter question as well. This assumption is underpinned by the suggestion "that as a field philosophy of education is on par in complexity not with any one branch of philosophy, but with the *whole field* of philosophy" (Phillips, 2010, p. 17). Thus, in its scope and dimensions, philosophy of education is considered to be as broad and complex as philosophy itself. The widely felt infinity and indeterminacy of philosophy of education are finally explained by hinting at the infinity and indeterminacy of the "field" or the "domain" of education itself: "The field of education is so broad and complex, and is intertwined with so many other aspects of society, and is of such fundamental social importance, that the direction philosophical work can take is almost limitless" (Phillips, 2010, p. 17). In consequence, the dictionary-type definition of philosophy of education—"Philosophy of education is a field where philosophical inquiry is pursued that focuses upon issues arising within the domain of education" (Phillips, 2010, p. 18)—does not really have a defining character. It marks off neither a particular field of philosophical inquiry nor the domain of education itself. The dictionary-type definition, however, makes sense only insofar as it relies on the fact that everyone has an implicit understanding of what the domain of education constitutes. What is still lacking, however, is an explicit theory of education—in other words, an attempt to conceptualize education not as an empirical object but as an object of inquiry. For elucidating education, it is insufficient to hint at empirical objects such as schools, since many different processes are going on there simultaneously. How can we know that education is going on at a particular school? (Biesta, 2011, p. 190). Thus, if philosophy of education refers to the "domain" of education, this domain itself has to be conceptualized. In other words, philosophy of education cannot do without a theory of education, and the latter cannot simply be derived from the former.

Theorizing education as a task of its own, independent of philosophy but not ignorant of

philosophy and its methods, has not been prioritized for various reasons. One reason is the long-dominant so-called isms approach in philosophy of education that started from established philosophical positions from which "implications for education" were derived (Burbules, 2000, p. 10). Another reason why the task of theorizing education has not been at the top of the agenda is the fact that, at least in the English-speaking tradition, education is usually considered to be a "field subject," not a scientific discipline of its own. To be sure, the question whether education should be regarded as a field subject or as a discipline of its own cannot be resolved easily, and there are good reasons for both sides (Scheffler, 1966). These positions, however, have different implications for theorizing education: Regarding education as a field subject implies that the crucial theoretical work is done in the so-called foundational disciplines (philosophy, history, psychology, sociology), while distinctively educational sources for theorizing education are left unnoticed (Biesta, 2011). The result is that in the English-speaking tradition, there are usually numerous theories in education but a limited attention to a theory of education. In a recent expansive *Handbook of Educational Theories* (Irby, Brown, Lara-Aiecio, & Jackson, 2013), there are 100 chapters on theories coming from diverse disciplinary contexts——from behavioral learning theory to constructivist curriculum theory and organizational theory—but only one entry (by Gert Biesta) that explicitly addresses the distinctive task of a theory of education.

The Continental tradition, especially the German tradition, of constructing the field is different. Here, from around 1800 on, we find attempts to theorize education as an autonomous academic discipline, not separate from psychology and philosophy, especially ethics, but concentrating on its own "indigenous concepts"—first of all *Bildsamkeit* (formability), and the practice of education—as being the major source for a theory of education (Herbart, 1806/1989).

The broader context for the development of education as a discipline of its own is the fact that modern societies are functionally differentiated. Just as any other functional sphere, education too follows its own logic and can no longer be considered part and parcel of a premodern, all-encompassing concept of politics or ethics. That is why it was felt that a theory of education cannot simply be derived from political theory or ethics (Schleiermacher, 1826/1983). Rather, it must focus on the logic of education as a differentiated, autonomous, and universal functional sphere in modern society. Consequently, under modern conditions, one has to distinguish between a domain-specific and a domain-unspecific theory of education. The former is contextualized in a functionally differentiated society, while the latter is decontextualized and holistic, treating education as an anthropological constant.

Now, the crucial question is which type of educational theory is presupposed or developed in philosophy of education. By its very nature, philosophical inquiry tends to be domain unspecific. It is characterized by its methods but not by a specific subject matter. Although there is philosophy of science, political philosophy, philosophy of education, and so forth, philosophical inquiry always deals with meta-level questions and the types of philosophical activity—either metaphysical/speculative, normative, or analytical (see Phillips, 2010)—across the different functional spheres. That is one reason why philosophy of education usually tends to presuppose or develop domain-unspecific theories of education. Another reason can be found in the aftermath of the ancient self-understanding of philosophy as "love of wisdom" that was in fact a far-reaching educational project rather than an intellectual activity of experts. In this vein, John Dewey (1916/1985) defended a holistic understanding both of philosophy and education as being not merely intellectual endeavors but as dealing with "fundamental dispositions toward nature and fellow-men," so that he finally could define philosophy "as the general theory of education" (p. 338). No wonder that this understanding of philosophy of education has trouble dealing with education as a specific domain, in which not all predicaments of the human condition are at stake at the same time; that is, it has trouble defining the limits of education, focusing on the specific problems to which education is supposed to be the answer. Thus, the limitless nature of philosophy of education is due to a presupposed domain-unspecific theory of education, and by drawing attention to the capacity of a constitutive theory of education, it was shown that this is by no means self-evident or without any alternative.

Johannes Bellmann

See also Continental/Analytic Divide in Philosophy of Education; Dewey, John; Education, Concept of; Educational Science; Herbart, Johann F.; Peters, R. S.; Phronesis (Practical Reason); Reflective Practice: Donald Schön; Scheffler, Israel

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Embodiment

The idea that the body is inextricably involved in learning has a long history. "I hear and I forget; I see and I remember; I do and I understand" has been attributed to Confucius. In his famous *Democracy and Education*, John Dewey (1958) held that "the material of thinking is not thoughts, but actions" (p. 184) (a view that reflected the influence of his fellow pragmatist William James), and Maria Montessori made much the same point when she emphasized that the hand allows the mind to "reveal" itself; Maurice Merleau-Ponty's phenomenology made much of the fact that the self is embodied (discussed elsewhere in this encyclopedia). Ideas from this pedigreed tradition have influenced both contemporary learning theory and educational practice.

In current education circles, the expression *embodied learning* has been used interchangeably with action learning, kinesthetic learning, and embodied education. In this entry, it will be understood as referring to learning that is augmented by the learner's physical movement. The strongest embodied learning occurs when these movements are congruent with key concepts in the topic that is being learned, and so the actions must be consciously designed into an educational lesson. (Congruent actions are ones that map with, or ground the content to, our sensorimotor systems. For example, spinning a yo-yo over one's head can help ground the sensation of centripetal force; tapping an icon on a touch screen to start a simulation of a yo-yo would not be a case of highly embodied learning.)

Humans are designed to process or encode information through various input channels—in the formal school day, the most common of these are visual (reading) and auditory (e.g., listening to a lecture). Although we usually are adroit at processing via these two modes, there is a movement to include more embodied learning in the classroom. Below,

various theories supporting embodied learning are listed, and the discussion will end with new technologies that can aid in presenting and exploring content via gesture or gross body movements.

Using the Body to Learn

As the pragmatist philosophers and others over the ages have stressed, our bodies are designed for action. More recently, researchers have argued that perception is not just for the static encoding of environmental features into the perceiver's mind, but rather the environment itself affords (makes possible) certain actions; and because we move, those affordances are constantly in flux. In short, human cognition is deeply rooted in the body's interactions with the physical environment (Wilson, 2002), and multiple research domains now support the tenet that embodiment is a powerful underpinning of cognition. The various domains include (but are not limited to) the following: neuroscience and mirror neurons (Rizzolati & Craighero, 2004), cognitive psychology (Glenberg, 2010), social psychology (Niedenthal, Barsalou, Winkielman, Krauth-Gruber, & Ric, 2005), linguistics (Lakoff & Johnson, 1980), mathematics (Lakoff & Núñez, 2000), gesture (Goldin-Meadow, 2003, 2009), and performing arts, such as theater and dance (Noice & Noice, 2006; Winters, 2008).

An intriguing demonstration of how cognition is intertwined with the actions of the body is found in a study where participants listened to words related to various body areas ("lick," "pick," and "kick"), and brain activation was observed in the sensorimotor areas associated with performing those actions. For example, hearing "lick" activated motor and premotor areas associated with the face and tongue, "pick" with the arm, and "kick" with the leg area. The suggestion is that we draw on our experience in the physical world not only when thinking literally about bodily actions but also when engaging in higher-order thought processes and semantics. The meanings of these words are still associated with the motor and premotor cortical areas used to perform them—even in the adult brain. This implies that if we were able to instruct people using body movements and activating appropriate sensorimotor codes while learning, then students might learn better. One mechanism to explain this may be that cognitive resources are freed by the use of the motor system, or perhaps moving the body helps strengthen the memory trace as another modality has been added during encoding.

An earlier spate of studies demonstrated a direct effect of physical enactment on cognitive processes. In the self-performed tasks domain, researchers compared participants who heard a list of unrelated action phrases with participants who performed those actions. The consistent finding was that the self-performing participants recalled more of the phrases than those who merely heard the phrases. This is sometimes called being "generative." There is increasing evidence that body movement such as gesture can serve as a "cross-modal prime" to facilitate the retrieval of mental or lexical items. If physical movement primes mental constructs such as language, then it may be that increasing an individual's repertoire of conceptually grounded physical movement will provide fertile areas from which new knowledge structures can be developed. *These gestures, however, need to be congruent.*

After a certain grade in school, the majority of the educational content in Western education is conducted using abstract symbols, namely, the symbols of language (words and syntax) and the symbols of mathematics. For these symbols to be meaningful, they must be based in something outside of the system of symbols themselves. Body perception and action, and the experiences based on perception and action, may become internalized in what has been termed *perceptual symbols*. When the appropriate sensorimotor systems are engaged, the converging inputs of perceptual symbols might work together to create stronger and more stable knowledge representations. However, it is important that the actions be congruent with the content to be learned. Performing jumping jacks in front of an interactive whiteboard will not increase knowledge about centripetal force; the perceptions and actions must be structurally or analogically related to the symbols and their meaning for effective learning to take place—what has been referred as *gestural congruency* (Segal, 2011). Thus, lengthening the string on the yo-yo must mentally map to the symbol r for radius in the equation for centripetal force. The embodied sensation that follows reinforces the concept that it is easier to spin at the same speed when the string is longer (i.e., force is decreased when r is increased).

What Role Does Technology Play?

Manipulables are concrete objects that can be used to activate real-world knowledge; but with the advent of new media and ubiquitous computers, it has become easier to virtualize them. There is no

clear answer yet as to whether using real or virtual manipulables is more effective.

However, it is possible to build on a purely embodied sensation by adding virtual components—instructional designers are now able to merge the physical with the virtual. By mapping a virtual or digital velocity vector onto the spinning yo-yo in real time (e.g., on a whiteboard behind the student), it is possible for a student to learn with both physical and virtual systems in place. This type of interactivity, the meshing of the physical and the virtual, is called *mixed reality* (MR). Paul Milgram and Fumio Kishino (1994) use the term to describe the space in between entirely virtual environments and entirely real-world environments. In the current technology landscape, this is a very broad definition that is inclusive of a wide range of applications from digital overlays on camera views, to physical objects such as simple machines interfacing with digital displays, to enhancing virtual reality interactions with haptic feedback.

Here is an example of how MR is being used in education today. Although this example uses a large-scale immersive platform, MR does not have to be big—the use of Microsoft's single KINECT sensor is bringing motion capture into informal and formal learning spaces. In addition, tablets and small form handhelds with accelerometers lend themselves to embodied designs. One large MR environment is called the Situated Multimedia Arts Learning Lab. It is a 15 × 15 foot space with interactive floor projection. It tracks a handheld wand using 12 infrared motion capture cameras. The physical body is now able to function like a 3D cursor in the immersive space. Several randomized controlled studies have demonstrated significant gains when content learned from Situated Multimedia Arts Learning Lab is compared with learning in a regular classroom. Researchers do not believe that it is the large environment that drives the learning; rather, it is the amount of embodiment designed into the lesson (Johnson-Glenberg, Birchfield, Tolentino, & Koziupa, 2013).

Taxonomy for Embodied Learning

The study of embodied learning is rapidly advancing, and the term itself is in danger of becoming blurry with overuse. It may be time to codify it with a taxonomy that applies to education. Mina Johnson-Glenberg and colleagues propose three necessary components for a range of embodied learning: (a) amount of motoric engagement; (b) gestural congruency—that is, how well mapped the evoked gesture is to the content to be learned; and (c) perception of immersion.

Mina C. Johnson-Glenberg

See also Confucius; Dewey, John; Distributed Cognition; James, William; Montessori Education; Phenomenology; Spectator Theory of Knowledge

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Emerson, Ralph Waldo

Ralph Waldo Emerson (1803–1882) was an American essayist and poet. Born in Boston, Massachusetts, Emerson was the fourth child of a Unitarian minister. He graduated from Harvard Divinity School and served as junior pastor in Boston's Second Church. After the death of his first wife, Emerson began to question his theological commitments. He resigned from his pastoral position in 1832, writing in his journal, "I have sometimes thought that, in order to be a good minister, it was necessary to leave the ministry." Emerson began a new career as a speaker on the Lyceum circuit, where traveling lectures and debates were presented before eager American audiences. Many of Emerson's famous essays grew out of these popular lectures. Emerson's early book, *Nature* (1836/1982b), served as the intellectual foundation for American Transcendentalism, a movement aimed at helping individuals develop an authentic existence in the human and natural worlds. His 1837 address to the Phi Beta Kappa Society, "The American Scholar" (1837/1982a), cemented his literary reputation and remains the most compelling statement of his educational vision. Emerson's two books of essays, the first published in 1841 and the second in 1844, span a wide variety of topics, from history and poetry to friendship and manners. His later essay "Education," which he presented at various graduation ceremonies and which was eventually published in *Lectures and Biographical Sketches* (1884), is his most explicit treatment of formal education.

Throughout his writings, Emerson is keenly concerned with the growth of the individual—the development of the individual's powers, potentials, and capacities—an emphasis demonstrating that his thought is thoroughly centered on educational concerns. Indeed, Emerson's treatment of individuality and moral perfectionism as it relates to education constitutes his greatest contribution to educational thought. "A man," he writes in his essay "Self-Reliance," "should learn to detect and watch that gleam of light which flashes across his mind from within, more than the luster of the firmament of bards and sages" (Emerson, 1841/1982c, p. 176). Education should encourage people to recognize and treasure this "gleam of light," to trust their own thoughts and impressions, and to develop their own genius. Foreshadowing later critical theorists, Emerson worried that educational efforts often simply reproduced existing power relationships and social structures. Rather than social reproduction, Emerson argued that education should instead help students to act autonomously, to develop a tapestry of powers, to avoid the life of mindless conformism, and to become creators instead of receivers. Thus, Emerson (1884) writes,

> The great object of Education should be . . . to teach self-trust; to inspire the youthful man with an interest in himself; with a curiosity touching his own nature; to acquaint him with the resources of his mind, and to teach him that there is all his strength. (p. 110)

How does one educate for individuality and self-trust? Emerson suggests that the key is to help people to have an expansive range of experiences. In his essay "The American Scholar," Emerson describes three important realms of experience that influence and shape the mind: *nature*, *books*, and *action*.

Emerson defines nature broadly, to include not only the nonhuman, natural world but also the day-to-day human world as well. Our engagement with nature, he argues, can become an avenue of self-knowledge. Emerson was intrigued by Immanuel Kant's "turn to the subject," where human beings are thought to experience nature indirectly through categories of understanding imposed by the human mind. As we study and classify nature, Emerson reasoned, we experience our own mental categories at work in the universe. It is this connection between mind and nature that grounds Emerson's Romantic spirituality. Beyond the opportunity for self-knowledge, the experience of nature is also educative because of the solitude it provides, allowing individuals respite from the demands of social conformity. Nature enriches not only our language but also our intellectual and moral understanding through the metaphors it suggests. "Who can guess," writes Emerson (1836/1982b), "how much firmness the sea-beaten rock has taught the fisherman?" (p. 59). Finally, the experience of nature educates because of how it demands the full exercise of the human senses, thus facilitating the development of individual powers.

In his discussion of books, Emerson deals with how we learn from the experiences and thoughts of others. Emerson, as a man of letters himself, valued the contribution of books and culture but thought

that they were much too heavily emphasized in schools. An overreliance on books destroys individual creativity, teaching students that thoughts come from the outside rather than from within. We should not rely on books as a source for our thoughts; rather, we should use them for inspiration. Through books we realize that we, too, can become great thinkers.

The final realm of experience, for Emerson, is action. Work, labor, and suffering—these are keys to developing the human powers of language and thought. In his 1844 speech, "New England Reformers," Emerson complained that too often when school is over, "We . . . come out at last with a bag of wind, a memory of words, and do not know a thing. We cannot use our hands, or our legs, or our eyes, or our arms" (Emerson, 1899, pp. 244–245). Real education occurs through experiential learning: "The sight of the planet through a telescope," he continues, "is worth all the courses on astronomy" (Emerson, 1899, p. 245). Action is most educative, for Emerson, when it stems from individual human purposes, both to teach and to learn. When we are interested in learning and teaching, education becomes "natural." This means that student freedom becomes essential for learning to take place: "The secret of Education lies in respecting the pupil. It is not for you to choose what he shall know, what he shall do" (Emerson, 1884, p. 116). Emerson also emphasized the educational worth of experience that comes about through acting in everyday life. He regretted the fact that only the distant and exotic seem to be valued in education: "I ask not for the great, the remote, the romantic. . . . I embrace the common, I explore and sit at the feet of the familiar, the low" (Emerson, 1837/1982a, p. 102).

In his democratic embrace of the educational potential of ordinary life, experiential learning, and child-centered experiences, Emerson foreshadows John Dewey and strands of American progressive education. More recently, his celebration of the educational potential of nature intersects with the environmental education movement. His emphasis on the development of autonomy has been an important influence on liberal educational thought, while his emphasis on the growth of individual power and self-trust was of keen interest to Friedrich Nietzsche. Indeed, Emerson presents a vision of what education would look like if it took individuality seriously, a vision he recognized as antithetical to schooling as it was (and is) practiced: "Our modes of Education aim to expedite, to save labor; to do for masses what cannot be done for masses, what must be done reverently, one by one . . ." (Emerson, 1884, p. 123).

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See also Cavell, Stanley; Dewey, John; Experiential Learning; Kant, Immanuel; Liberalism; Nietzsche, Friedrich; Progressive Education and Its Critics

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Epistemologies, Teacher and Student

"Personal epistemology" refers to the beliefs that people hold about knowledge and knowing; the psychological study on this topic started with the seminal work of William Perry in 1970. It seemed plausible that the ideas students have about the nature of knowledge and how one comes to know something influence the learning strategies that they

use, while the epistemologies of teachers seemed likely to influence how they teach.

Personal epistemology researchers concentrate on two broad dimensions of epistemology: (1) the nature of knowledge and (2) the nature of knowing. The nature of knowledge is conceptualized in terms of beliefs about its simplicity (simple vs. complex) and about its credibility status (certain vs. tentative). The nature of knowing is conceptualized in terms of the source of knowledge (internal or external to the knower) and the means of justification (authority vs. evidentiary standards). Personal epistemology researchers generally argue that a developmental progression exists across the life span, wherein individuals start from an absolutist stance that sees knowledge as simple, knowable with certainty, as having its source in the world, and justified by trusted authorities; later they move to holding an unmoored multiplism (or relativism) in which knowledge is regarded as uncertain, supposedly authoritative sources are untrustworthy, and all knowledge claims are equally justifiable. Later in development, this multiplism is resolved into an evaluative stance that concedes that knowledge is constructed and is not knowable with absolute certainty, but that nevertheless asserts that knowledge claims can be justified according to standards of reason and evidence.

Research has shown that there is some degree of association between epistemological beliefs and learning strategies, school achievement, and course-taking patterns. There is a tendency for students who have adopted the evaluative stance to have higher achievement, to take more math and science courses, and to use deeper learning strategies. At the same time, however, it must be acknowledged that clear and direct associations between professed epistemic beliefs and students' learning in subjects such as science or math have been hard to come by, and studies have faced a range of problems of measurement and conceptualization.

Research on teacher epistemologies has largely focused on associations between epistemological beliefs and other kinds of beliefs about teaching or learning. Compared with studies of student epistemologies, research on teachers is limited. Within math and science specifically, the general finding is that the teachers across K–12 grade levels tend to have what researchers consider naive views of the epistemology of their subject specialties. As yet, relatively little work has been done to trace the influence of these views on teaching practices. There is some empirical suggestion that myriad concerns and in-the-moment judgments have a much stronger effect on instructional practices than epistemological beliefs.

Research on personal epistemologies has been hampered by a rather large variety of definitions of what counts as "epistemological." Models of epistemological development proliferate, so far with little effort to discriminate among them. Connections between relevant developmental milestones, such as attainment of the ability to engage in causal reasoning, or development of the child's theory of mind, are underexplored. Questions remain concerning how an individual's beliefs about knowledge and knowing are related to the individual's beliefs about learning, and whether the latter should be considered part of a personal epistemology.

A persistent concern in personal epistemology research has been the reliance on general survey instruments that lack validation with other possible assessments of epistemological belief. Research subjects are typically asked to state their level of agreement with general statements about knowledge or about knowing—but such assessments are far removed from people's actual efforts to construct or evaluate knowledge for themselves and presuppose that individual's epistemic beliefs are stable and available for explicit reflection. A related problem is that commonly used instruments often include items about topics that bear little relation to epistemology.

There is another significant issue, namely, that a wide variety of empirical evidence undermines claims that there is a simple developmental trajectory from absolutism to evaluativism. People can espouse apparently contradictory epistemologies at the same time, both within and across subject matter or judgment domains. The assignment of individuals to broad epistemological positions may reflect researchers' biases more than the actual beliefs of the people concerned. This has spawned a variety of theoretical models of epistemological development; these include developmental theories as described here and models that posit multidimensional, somewhat independent belief systems. At the moment, the field appears to be in ferment without a clear way of discriminating between competing models.

A related issue is that the dominant conceptualization of epistemological beliefs as described above seems simplistic both intuitively and philosophically. Intuitively, it is not hard to recognize that some knowledge is simple, such as knowing

your own phone number, but other knowledge is complex, such as knowing the theory of natural selection. The epistemological status of the first is different from that of the second—and this makes it difficult for students to give a single, universally applicable account of the nature of their beliefs. Philosophically, epistemologists concern themselves with a much broader range of issues than is typical in personal epistemology research, and in particular emphasize the aims of knowing, and the role played by values in epistemological matters.

Models of epistemological development thus are making efforts to be more philosophically rigorous, and investigative methods are changing to enable comparisons between what researchers now distinguish as professed epistemologies (what people say that they believe about knowledge and knowing) and enacted epistemologies (what people do when they construct and evaluate knowledge themselves). This includes a shift away from assessments of beliefs toward the study of processes of epistemic cognition. This shift stems in part from research on learning in the disciplines, especially math and science. In science, for example, the evidence is quite clear that students' efforts to investigate scientific questions (enacted epistemologies) share much with professional scientific practice, while their professed epistemological beliefs about science seem hopelessly naive and immune to instruction. It remains an open question how the intuitive and apparently tacit ideas students apply to their own knowledge construction can be developed into explicit conceptions of the epistemologies of particular disciplines of science, mathematics, and others.

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See also Epistemology, Multicultural; Knowledge, Analysis of; Learning, Theories of; Metacognition; Piaget, Jean; Postpositivism; Theory of Mind

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Epistemology, Multicultural

In educational practice and research, the term *epistemology* has come to refer to a wide range of questions and theories about knowledge that have traditionally come under the purview of philosophy of knowledge, and more broadly under sociology and anthropology of knowledge, and psychology. These questions include what knowledge is, who can claim to have it, the differences (if any) between knowledge and belief (or between knowing and believing), what count as sources of knowledge, and how knowledge is acquired or developed. The term *multicultural epistemology*, which is not used very frequently, is open to multiple interpretations that depend on the underlying conceptions of both "epistemology" and "multiculturalism" that are held. This entry begins by addressing the difference between multicultural societies as phenomenon and multiculturalism as policy or attitude. It then addresses three possible interpretations of "epistemology," and how they have manifested themselves in uses of the term *multicultural epistemology*. For each of these interpretations, it discusses the bearing that "multicultural epistemology" has on education.

Multiculturalism and Cultural Diversity

The adjective "multicultural" is ambiguous because it can refer to multicultural*ity*, that is, the neutral fact that most contemporary societies are made up of numerous cultural groups, as well as to multicultural*ism*, that is, the positive view that the different cultures in a given society ought to be respected, accommodated, or celebrated. Multiculturalism can be a view held by an individual or a group of people and can become enshrined in official government policy. "Multicultural epistemologies" in the plural can descriptively (i.e., sociologically, anthropologically) refer to the different ideas about knowledge that can be found in the different cultural groups in a society. "Multicultural epistemology" in the singular tends to refer to the pursuit of epistemological

issues within the traditional field of philosophy of knowledge—but a pursuit that actively seeks to be inclusive and respectful of the different cultural groups in a society and is, therefore, multiculturalist in its orientation.

Three Interpretations of Multicultural Epistemology

Epistemology With a Multiculturalist Sensibility

If epistemology is seen as a philosophical practice, as the part of the larger discipline of philosophy that occupies itself with the study of knowledge and how claims to know something are warranted or supported, then "multicultural epistemology" may refer to this epistemology done with a "multicultural sensibility." This is the interpretation that D. C. Phillips and Jon Levisohn advocate, and in doing so, they borrow the idea of doing philosophy with a particular sensibility from the feminist epistemologist Helen Longino. Longino had distinguished between doing "feminist epistemology" and doing epistemology with a "feminist sensibility." The former would refer to a distinctively feminist philosophical practice, using its own feminist criteria for what constitutes good epistemology, while the latter would refer to the common philosophical practice of epistemology carried out with a feminist awareness of how the traditional understandings of knowledge, knowing, and knowers have excluded women. Similarly, then, doing epistemology with a multicultural sensibility would mean the common philosophical practice of epistemology carried out with a multiculturalist awareness of how the traditional understandings of knowledge, knowing, and knowers have excluded those from non-European backgrounds.

Multicultural epistemology, in this interpretation, could, for example, ask critical questions about the importance of "knowledge by acquaintance," the type of knowledge captured in statements like "I know you" or "they know the river." Such statements are different from and broader than ones such as "I know that you prefer your coffee with milk" or "they know that the river is twenty feet deep," which express "propositional knowledge." Knowledge by acquaintance is a more intimate, encompassing knowledge that is gathered over time, sometimes shared in a community rather than held in an individual mind, and not necessarily written down. Although some philosophers have been dismissive of knowledge by acquaintance as a distinct type of knowledge, it can be highly valued in a community. For example, educational researchers can measure Chinese immigrant children's competency in English as well as in Mandarin, and they can assess how losing their ability to speak Mandarin affects the children's learning of English. Such research findings are typically captured in propositional knowledge. However, the lived experience of maintaining or losing the language that one's grandparents speak is not so easily captured in propositional knowledge. A Chinese community might say, then,

> We know how a younger generation's inability to speak Mandarin affects intergenerational ties, we have seen how thinking in English rather than Mandarin has changed their outlook on the world: we *know* language loss. Why are policy makers more interested in the propositional knowledge in tables and graphs than in our community's knowledge of language loss when they write new policy on language education?

Multicultural Epistemologies

Others have used the term *epistemology* not to refer to a philosophical practice but rather to a particular set of beliefs about knowledge that are the outcomes of this practice. In this way, scholars may refer to "an epistemology," to "so-and-so's epistemology," or to "epistemologies" in the plural. If epistemology is taken in this way, then "multicultural epistemologies" could refer to the multiple sets of beliefs about knowledge coexisting in a multicultural society. If the primary multiculturalist principle is that the different cultural groups in a society are entitled to their own values, beliefs, and practices, then "multicultural epistemologies" could refer to the idea that the different cultural groups in a society have, and are entitled to, their own ideas about knowledge.

The difficulty with this idea, in the simple way it has been stated here, is that each cultural group's claims to know can be assessed only by that group's own criteria. Each cultural group's claims to know, and the warranting or justificatory criteria that are used, are thus insulated from outside criticism, a situation known as relativism. So if a group, for example, claimed that, in its culture, it was believed that knowledge resided in microchips implanted in people when they were abducted by aliens, a multiculturalist would have to shrug her or his shoulders and say, that is their knowledge, generated by their epistemology, and I have to respect that. From the

perspective of liberal education this is not very satisfactory, as the ability to assess the reasons people give for their claims is considered an important educational outcome. While other educational perspectives might value inclusiveness, respect for difference, and care for one another over the rational ability to assess the reasons given for claims, most would not want to fully embrace relativism and abandon all criteria for assessing knowledge claims.

There is, then, an important tension between "epistemology with a multicultural sensibility" as described earlier and the "respect for multicultural epistemologies" that has just been discussed: the former is *normative*, which is to say, it offers views on what ought to count as knowledge, and the latter is *descriptive*, which is to say, it observes what beliefs about knowledge exist within the cultural groups in a society but does not allow for a cross-cultural assessment of these beliefs.

Epistemology of Multicultural Education

A third interpretation of "multicultural epistemology" is as the epistemology (in the sense of a set of beliefs about knowledge) that is assumed by those who practice multicultural education. In other words, what do those who practice multicultural education assume knowledge to be, particularly knowledge about a multicultural society itself? This is the interpretation that Nancy Lesko and Leslie Rebecca Bloom use when they argue that, ironically, multicultural education often relies on a positivist epistemology. By this, they mean that education with a culturally diverse group of students and about multicultural society often relies heavily on factual, propositional knowledge about multicultural society rather than on other forms of knowledge that may be brought to the class by the students themselves. Lesko and Bloom write that they have observed many attempts to replace students' false beliefs about multiculturalism and multicultural societies with beliefs that are true (as judged by their correspondence to multicultural society as it can be observed and measured). Such attempts, they believe, disrespect the cultural diversity of the students as they validate only one type of knowledge about multicultural society and force it on students who bring to school their own knowledge of such a society. Lesko and Bloom argue that the students' subjective experience, and knowledge by acquaintance of living in a multicultural society, ought to be taken seriously as a type of knowledge and that a dialogical approach to knowledge co-construction is more appropriate than a focus on accurate knowledge about multicultural society based on objective evidence.

If knowledge co-construction in a multicultural classroom proceeds without any shared criteria for what counts as knowledge, it falls prey to the relativism mentioned above. However, this does not diminish the important question of what epistemology, in the sense of philosophical practice or in the sense of set of beliefs about knowledge, is best suited to support multicultural education. How might we best go about teaching students about various theories of knowledge if at the same time we wish to promote respect for cultural difference? How can we teach students to assess the warrants for knowledge claims, but also to be mindful of the contexts in which they do so, and the voices that are or are not heard as legitimate makers of knowledge claims? There is no one-size-fits-all approach with which we can assess the warrants for statements made by, for example, candidates in a presidential election campaign as well as those made by Indigenous people in land claims.

Epistemology as Ill-Fitting Box?

One of the difficulties not addressed by the label "multicultural epistemology" is that it continues the use of the term *epistemology*. While the introduction of the word "epistemology" into English is relatively recent, dating back no further than the middle of the 19th century, discussions we would now call "epistemological" go back much further in Western and Middle-Eastern philosophy. The tendency to seek precision through analysis and taxonomy has led to distinct names for disciplines and subdisciplines and fields and subfields, including, for example, "epistemology," "ontology," and "ethics" in philosophy. While such distinct subdisciplines and fields allow for sought-after specialization and precision, they can also treat phenomena and concepts that are inseparable in their real-life manifestations as being distinct or separable. The philosophical practice of epistemology can be perceived as an ill-fitting box by those from cultural backgrounds in which analysis and taxonomy are less valued. Epistemology has traditionally presupposed that the study of knowledge can be conducted separately from, for example, ethics or sociology, but the question of what counts as a warrant for knowledge, who is considered a legitimate knower, and how to balance a skepticism

for what people say with a respect for persons are not so easily separable in everyday life. More recently, scholars in social epistemology have sought to remedy these artificial separations by reconnecting epistemology with ethics or sociology of knowledge. Miranda Fricker, for example, has examined how some people suffer the particular injustice of being denied a capacity as knower because they are not recognized as credible based on the racial, gender, or other group to which they belong. And Helen Longino has argued that when some voices are systematically excluded from scholarly debate, the knowledge resulting from that debate suffers as it has not passed and been refined by the most comprehensive critical scrutiny.

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See also Edinburgh School of Sociology of Knowledge; Epistemologies, Teacher and Student; Feminist Epistemology; Knowledge, Analysis of; Multiculturalism; Positivism; Postpositivism

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Equality of Educational Opportunity

The concept of equal educational opportunity was thrust into prominence in the United States in the Supreme Court's 1954 decision in *Brown v. Board of Education*. The Court reasoned that equalizing educational opportunity had become imperative because it had become so tightly entangled with equalizing opportunity to access society's goods more generally. The focus of the Court's decision was ending the legalized segregation of Black children in public schools. In 1965, with the passage of the Elementary and Secondary Education Act, the imperative to equalize educational opportunity was extended to low-income children. In subsequent years, court decisions and legislation extended the imperative further to address disability, language, and gender. Today, there are calls to include sexual orientation and immigrant status, among other categories.

Since *Brown*, considerable agreement has been reached that providing equal educational opportunity is morally required, at least for racial groups, low-income children, and girls and boys. However, just what this requirement entails more specifically continues to be controversial.

Inputs Versus Results

In his celebrated 1966 study of educational inequality, the sociologist James Coleman stimulated interest in the philosophical question of the meaning of the principle of equal educational opportunity, particularly regarding whether it should be understood in terms of school inputs—for example, the facilities and curriculum materials supplied to children—or in terms of the results schools produced, for example, children's academic achievement. Coleman suggested that a defensible conception of equal educational opportunity must involve the equalization of educational results. For, in making the determination of whether children were being afforded equal educational opportunities, equality of inputs alone is insufficient. Indeed, to identify something as a genuine educational input, it must be related somehow to the production of educational results.

At the time, philosophers were by and large dismissive of the idea that equal educational opportunity can or should be defined in terms of educational results. They countered with the observation that the existence of an educational opportunity provides a chance but no guarantee of producing educational results. Opportunities must be exercised to produce results, and one may choose to forego exercising them.

This choice-based conception of equal educational opportunity is problematic in several ways. First, Coleman is not unique in adopting a results-based position. In the 1974 *Lau v. Nichols* case, the U.S. Supreme Court rejected the San Francisco Unified School District's argument that it was providing

monolingual Chinese-speaking children with equal educational opportunity by providing them with the same inputs (books, teachers, and desks) that were provided to English-speaking children. The Court declared that such opportunities are not meaningful because there is no reason to believe that they can produce the desired educational results. This echoes Coleman's analysis. The same general contours are found in John Dewey's claim that the educative value of a given experience depends on how well it interacts with the characteristics of given individuals at the point in time it is presented to them. The general point is that educational opportunities cannot be abstracted from the interactions between the characteristics of individual children and what the institution of schooling provides to them. As the *Lau* case dramatically illustrates, what constitutes an educational opportunity for one individual can be quite meaningless for another.

A second way in which the choice-based conception is problematic is that educational results must be produced to open future educational opportunities. Literacy and numeracy are obvious examples of educational results that must be produced to provide children with meaningful educational opportunities as their educational careers unfold. The problem here is that the choice-based conception is blind to the special character of children's opportunities. The idea of having, but failing to exercise, an opportunity can be readily applied in certain circumstances involving adults, for example, as in "Arturo had the opportunity to attend Harvard but declined it." But children's educational choices cannot be approached in the same way, as in "Six-year-old Susan had the opportunity to learn to read but declined it." Susan would not be afforded such a choice—she would not be capable of responsibly exercising it.

The concept of equal educational opportunity must be viewed in terms of educational careers that include the achievement of numerous educational results, many or most of which are not chosen. The relationship between educational opportunity and educational results may be expressed as follows: *inequality of educational results provides prima facie but defeasible evidence of inequality of educational opportunity.* In the case of African Americans, for example, the cumulative evidence of their relatively lower achievement strongly warrants the conclusion that they are denied equal educational opportunity. Closer investigation reveals that the schools that they attend are relatively inferior. The original claim that African Americans are, as a group, denied equal educational opportunity is not defeated. By contrast, one might claim that Arturo was denied equal educational opportunity compared with students with Harvard "legacies" because he attended State University rather than Harvard. Suppose on further investigation, however, it was determined that Arturo could have gone to Harvard but chose not to do so. He thus was not denied equal educational opportunity, and the original claim is defeated.

General Conceptions of Equal Educational Opportunity

Few, if any, advocate strict equality among education results. Analysis instead turns on the questions of how much educational inequality is permissible and due to what causes. Different answers to these questions are provided by three general conceptions: formal, horizontal, and vertical.

Formal Equal Opportunity

Formal equal educational opportunity requires that individuals not be denied admission to an educational institution because of discrimination on the basis of race, gender, disability, and so on. Formal equal educational opportunity is certainly an advance over the alternative of naked discrimination. However, it is a very weak conception of equal educational opportunity. On this conception, a child is not denied equal educational opportunity if she is turned away from a school because her parents cannot afford to own a home in an adequately funded school district, and if she must therefore attend an inferior, underfunded school. And this child would not be seen as being denied equal educational opportunity if she later failed to qualify for college because of her previous inferior education.

Horizontal Equal Opportunity

Horizontal equal educational opportunity requires equalizing educational inputs across educational institutions. The child of the previous example would be denied equal educational opportunity under this conception because her underfunded, inferior school does not provide her the resources needed to succeed equally to the children of the wealthier district. Although an advance over formal equal educational opportunity, the horizontal conception is also too weak. As illustrated by the *Lau* decision, educational inputs cannot be identified as such when abstracted from the individuals to whom they are provided. If the child in the example

is hard of hearing, for example, then being provided with the same inputs as other children, even in an adequately funded district, will not ensure that she is being provided with equal educational opportunity. Again, attention must be paid to the particular characteristics and associated needs of individuals to provide a meaningful kind of equal educational opportunity. This leads to the vertical conception.

Vertical Equal Opportunity

Vertical equal educational opportunity requires equalizing educational inputs from the bottom to the top of the learner advantages/disadvantages spectrum in given education contexts. Using the illustration of the *Lau* decision once again, the educational opportunities of Chinese-speaking children are equalized by tailoring educational inputs to their make-up, in this case providing some proven form of bilingual instruction. The same logic applies to income, race, gender, and disability. In each case, children may need to be provided *different* educational inputs in order to enjoy *equal* educational opportunity.

The Equality and Adequacy Frameworks

The two leading contemporary philosophic approaches to the analysis of equal educational opportunity are the equality and adequacy frameworks. Both are vertical conceptions.

The Equality Framework

The equality framework is associated with a meritocratic conception of equal educational opportunity. It permits educational inequality to the extent that it results from talent and motivation but not from sources such as social and economic class. The amount of permissible inequality is thus a function of inequality in talent and motivation. A more radical version does not permit even talent or motivation to be legitimate sources of inequality, to the extent that these are systematically related to social and economic class.

The equality framework conceives equal educational opportunity in terms of material equality. It emphasizes that education is a *positional good*, the value of which is determined relative to how much others possess of it, and by the fact that it enables the acquisition of other goods such as employment, a good income, and health care. For society to be just, then, education must be justly distributed, which is what the meritocratic conception of equal educational opportunity is designed to ensure. It does so by distinguishing morally relevant sources of educational inequality, such as talent and motivation, from morally irrelevant sources, such as the social economic class into which one is arbitrarily born. Permitting morally irrelevant sources to determine how much education individuals attain is unjust on this view, for people should not benefit or be disadvantaged by what they cannot be credited or blamed for, which surely includes the social economic class into which they are born.

The Adequacy Framework

The adequacy framework conceives equal educational opportunity in terms of political equality. Although not unconcerned with material equality, the adequacy framework places much greater emphasis on democracy than does the equality framework. This difference applies both to the question of what is to be equalized in the name of equal educational opportunity and the level of equality that is required.

Different groups of people place different value on education. The adequacy framework acknowledges this and holds, further, that a certain amount and kind of resulting educational inequality should be permitted in a democratic society. Equal educational opportunity is thus not a constant function of other variables as in the way the equality framework relates permissible inequality to talent and motivation. Rather, the adequacy framework specifies a certain threshold of education below which no educable child should be allowed to fall. This threshold limits the discretionary space open to democratic bodies, while permitting them to create inequality above the threshold.

Key to the adequacy framework is how it closely ties education to democracy. This is in contrast to the equality framework that treats education on the model of other goods to be distributed, emphasizing its position relative to other goods. In particular, the threshold is defined in terms of the level and kind of education required to foster the kind of equal status as a citizen associated with the ability to effectively engage in democratic deliberation. This is the conception of equal educational opportunity that a democratic society can legitimately insist its educational system provide in the name of democracy itself. Achieving it will spill over into requiring the achievement of a threshold of material well-being, without which equal citizenship cannot be realized.

Equality Versus Adequacy: The Disagreements

The equality and adequacy frameworks are not simply alternative approaches to equal educational opportunity. Their advocates are competitors, each critical of the other's stance both on how to avoid leveling down as the means to achieve equality, such that educational opportunity is equalized but at an inadequate level, and how to recognize education's position relative to other goods so as to avoid injustice overall.

The Leveling-Down Issue

The leveling-down issue is associated with the equality framework. Because the framework does not incorporate any substantive standard of education, one way to achieve equality is simply to reduce what is provided to those at the top of education resource distribution in order to reduce their advantage. Avoiding this maneuver has actually been a concern regarding the response of school districts to court decisions requiring the equalization of funding.

The equality framework may, indeed, face a practical political problem with regard to the leveling down of resources so as to achieve educational equality. But this is not the fault of the equality framework, philosophically speaking. The equality framework is "prioritarian," meaning it gives priority to improving the position of the disadvantaged in policymaking. It is by no means clear that leveling down is always, or usually, the best way to do this. Furthermore, the equality framework recognizes that education has nonpositional, or intrinsic, value, in addition to positional value. Coming to appreciate a good literature or an elegant mathematical proof are examples. The idea of leveling down does not apply to this kind of educational good because one individual's possession of a certain degree of it does not affect another's.

The Positional Good Issue

The adequacy framework avoids the leveling-down problem by requiring a substantive educational threshold. Advocates of the equality framework do not find this a compelling reason for adopting the adequacy framework. Indeed, because it pays too little attention to the positional aspects of education as a good, on their view, the adequacy framework is charged with being indifferent to inequality above the educational threshold that can result in unacceptable levels of inequality in other domains. Furthermore, the adequacy framework faces its own practical political problem, in this case, that the threshold might be set too low. Indeed, wealthier parents would have an incentive to support just that and then devote extra resources to their children's educations above the threshold. What makes matters worse than in the case of the equality framework is that the state would be approving of inequality in adopting an adequacy framework.

Like advocates of the equality framework, advocates of the adequacy framework do not take the practical political problem to be a decisive criticism of their view, philosophically speaking. Their rejoinder to advocates of the equality framework regarding the positional good issue is that in a democracy, education is not, or should not be, a largely zero-sum good. Instead, it should be grounded in equal citizenship, which requires that certain relationships exist among citizens that enable them all to effectively participate in social and political life. This requires fostering tolerance, mutual respect, cooperation, and other skills that are acquired and honed collectively and that are thus quite unlike positional goods. Moreover, citizens who possess these democratic characteristics will not be disposed to use educational inequalities to unfairly gain other benefits.

Conclusion

A general, not to say unanimous, point of agreement has emerged among philosophers regarding equal educational opportunity: Formal and horizontal conceptions are too weak; a vertical conception is required. But controversy surrounding the concept of equal educational opportunity is by no means settled. The disagreement about whether the criterion of a vertical conception should be equality or adequacy remains intense. Resolving this disagreement may well turn on which of the equality versus adequacy frameworks, if either, takes hold in the practical political domain.

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See also Citizenship and Civic Education; Democratic Theory of Education; Dewey, John; Legal Decisions Affecting Education; Rawls, John

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Erasmus

Desiderius Erasmus (1469?–1536) was born in Rotterdam, the illegitimate son of a physician's daughter and a priest. From these inauspicious beginnings, he rose to become Europe's premier Latinist, as well as a celebrated biblical scholar and proponent of educational and religious reform. While as a young man, he was absorbed in the Greco-Roman classics; in his middle years, he turned his attention primarily to biblical scholarship. For the last 15 years of his life, he was embroiled in the controversies surrounding Luther's challenge to the Roman church.

During Erasmus's lifetime, there were two major systems of learning, which simultaneously competed with and supplemented each other. Scholasticism, dominant in the universities, had flowered in the 13th century, with the reintroduction of the logical works of Aristotle into circulation in Western Europe. Scholars were fascinated by the tools Aristotle's philosophy provided for unlocking the mysteries of Christian theology. Humanism, a product of the Italian Renaissance, abjured speculative theology and philosophy in favor of the *studia humanitatis*: studies of human beings, focused on living well in the world. Ethics, political philosophy, and life in the family and community were central to this program, which was rooted in the Greco-Roman classics. While the scholastics particularly favored dialectic (logic), humanists embraced rhetoric (the art of persuasion).

Erasmus's background exposed him to both of these forces. Early in his life, he gained a foundation in Latin letters at a school associated with the Brethren of the Common Life in Deventer, a movement of pious laymen who espoused a life of simple, humble piety. As a youth, he entered the Augustinian monastery at Steyn, where he took advantage of the extensive library to gain knowledge of the classics. In 1492, he enrolled at the University of Paris to study theology through the patronage of a bishop. Here, in the heart of the world of scholasticism, Erasmus found himself far more attracted to the society of humanists than to his theological studies. He supported himself through private teaching and published the first editions of pedagogical works for which he became famous: the *Adagia*, a collection of adages or commonplaces (with explanatory notes describing their meaning and origins in classical literature), and the *Colloquies*, a set of Latin dialogues on contemporary subjects, modeled on the Socratic dialogues. He would expand both collections through numerous editions over the remainder of his life. Other important works include the *De Copia* (1512), a manual for writing in the "abundant style" based on a section of Quintilian's *Institutiones Oratoria*. One of his students brought Erasmus to England in late 1498, where he met lifelong friends John Colet (who in 1509 became the founder of St. Paul's School) and Thomas More. Erasmus was inspired by these companions to turn his focus from the pagan classics to the literature of Scripture. His most famous work, *Praise of Folly* (1511), was dedicated to More.

Erasmus embarked on the study of Greek and began a thorough scholarly examination of the New Testament, including a new Latin translation that departed from the Vulgate (which had been universally in use up until that time), a critical edition in the original language, and an elaborate set of annotations. He expanded on the philological tools developed and utilized by the humanist Lorenzo Valla (1407–1457), who was highly attuned to language as an ever-evolving product of history. By accumulating and comparing manuscripts, Erasmus sought to arrive at an authoritative reading based on his knowledge of linguistic practices during the period in which the text was written. This work would involve him in numerous controversies, particularly with those embracing a scholastic approach, forcing

him to defend his translation in numerous apologetic works and in three subsequent editions of his New Testament. He also composed a set of paraphrases on the books of the New Testament and produced critical editions of the complete works of many of the Latin and Greek Fathers of the Church.

As a religious reformer, Erasmus promoted the idea of the *philosophia Christi* (philosophy of Christ), which he defined as an inner transformation brought about by encountering Christ in Scripture, in contrast to the highly technical philosophical approach of the scholastics. A critic of relics, private masses, pilgrimages, and special vows, Erasmus advocated a simple faith and humble conformity to the will of God. His approach retained its humanist emphasis on formation of the character through encounters with the finest texts; to Erasmus, reading Scripture was the ultimate act of communication for which one prepared through acquaintance with the figurative language of the best classical writers. With the advent of the Lutheran reform, Erasmus was unwillingly swept into religious controversy. For several years, he remained detached from the growing division, but finally, in 1524, he proclaimed his allegiance to the Roman church with his *Discussion on the Freedom of the Will.*

Erasmus's educational program was closely linked to his religious reform. Throughout his life, he advocated an approach that valued the moral formation of students through encounters with the best literature. He believed that the process of mastering Latin should be made as enjoyable as possible to make young people associate learning with pleasure. He subscribed to the humanist view that the ability to speak and write well was the foundation for a well-lived life and that by turning one's mind to the highest ideals expressed in the most beautiful Latin, the student could best realize his potential. His *Adagia* in particular provided young scholars with access to a wealth of knowledge in a form designed to stimulate their interest in developing a deeper understanding.

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See also Aquinas and Thomism; Aristotle; Cicero; Quintilian; Socrates and Socratic Dialogue

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Essentialism, Perennialism, and the "Isms" Approach

Essentialism and *perennialism* are terms coined in the mid-20th century to identify separate but related approaches to educational theory and practice. These terms have retained minor currency in an approach to teaching philosophy of education known as the "isms" approach. Even more than the isms approach in general, essentialism and perennialism are largely absent from contemporary philosophy of education or curriculum theory, though they persist in some college and university courses and are well represented on the Internet. These two isms are examples of historical efforts to make sense of educational tensions that became particularly salient in the early 1900s but that remain unresolved a century later. While today's educational theorists and reformers do not typically use the terms *essentialism* or *perennialism*, they continue to debate tensions between traditional educational aims for all children versus contemporary educational aims for students based on different student backgrounds, aspirations, and social conditions. *Essentialism* and *perennialism* were terms originally intended to characterize the most traditional of educational outlooks.

Isms in General and in Educational Theory

What has been called the isms approach in philosophy of education is simply an application of a common linguistic convention to academic purposes. We use the suffix *ism* most frequently to categorize commonalities in thinking and to distinguish them from one another, whether these be religions (Buddhism, Judaism, and fundamentalism), formal philosophical systems (pragmatism and existentialism), political ideologies (liberalism and socialism), convictions and biases (vegetarianism and racism), views of human learning (behaviorism and constructivism), patterns of thought and speech (dualisms and malapropisms), arts genres (impressionism and surrealism),

and so on without end. The conventionally regarded longest word in the English language is an ism (antidisestablishmentarianism). The ism suffix typically identifies ways of thinking or believing and enables us to classify these ways of thinking conveniently.

To one extent or another, then, all isms are historical constructions: efforts to make sense of a complex thought world by creating classifications and categories under which multiple conceptual phenomena can be ordered, whether the phenomena in a given category are words, treatises, or deeds. Racism has countless manifestations, as do socialism and impressionism. The phenomena that these three particular terms describe existed long before the terms were introduced in the 19th and early 20th centuries, but these terms have become familiar elements in our cultural vocabulary. What has been called the "isms approach" is first and foremost an approach to culture, language, and thought, not just an approach to teaching educational theory.

In educational theory, the isms approach had a kind of heyday in the early and mid-20th century, again as a response to conditions that preceded it. Theodore Brameld, an academic philosopher and professor at New York University, introduced a taxonomy of isms in 1950 that featured "four major outlooks," as he would term them toward the end of his career: perennialism, essentialism, progressivism, and reconstructionism. That these were Brameld's unique construction of what he considered to be "principal patterns" of thought, as he termed them, is evident from the fact that he chose not to use a variety of other isms with which he was familiar and which others have used before and since. Among these are idealism, realism, Thomism, and existentialism, which remain prominent among some textbook and web-based presentations of isms today, while perennialism and essentialism have receded.

Brameld noted in 1974 that his preferred isms had never been taken seriously by academic philosophers, nor were his own isms largely taken up by colleagues writing in the field of philosophy of education. He certainly could not have foreseen that 40 years later these four categories would still be alive and well on the web and that the isms approach in general would still be used in training teachers and philosophers of education. In 1986, one of the most comprehensive books ever written on curriculum theory listed seven different philosophical schools of thought: idealism, realism, neo-Thomism, naturalism, pragmatism, phenomenology, existentialism—with no mention of essentialism or perennialism. Almost 30 years later, the vocabulary of educational theory has changed, but the use of isms remains in theoretical markers, such as feminism, postmodernism, poststructuralism, postcolonialism, and others.

Such isms are distinct from those that Brameld offered in that they represent intellectual and artistic commitments entirely independent of educational theory, while Brameld intended his four categories to represent different approaches to theorizing about education specifically. There will always be a replenishing supply of isms; whether educational philosophers see them as useful in their theorizing and/or in their teaching is another matter.

The distinction between the use of isms in educational theorizing and in college and university pedagogy is an important one. Brameld was trying to make conceptual distinctions in educational theory and practice by using these four categories to speak to theorists and practitioners. Philosophers of education today do not use these older isms in their professional discourse, even disavowing them—but these older isms are still used by some college faculty to help novice educators in colleges and universities understand how educational practices and preferences are tied to deeper systems of philosophical thought—from idealism to existentialism to pragmatism to postmodernism. A popular text in philosophical foundations of education, published continuously for the past 18 years, devotes chapters to these isms as well as to Marxism, behaviorism, and reconstructionism, with extensive attributions to Brameld but nothing, however, on essentialism or perennialism.

Essentialism and Perennialism: Illustrative Isms From the Mid-20th Century

Brameld's apparent purpose in constructing his four particular categories was to show, in sharp relief, how conflicting ways of thinking about education had dominated the discourse in the first half of the 20th century. He was not trying to be comprehensive with respect to possible philosophical points of view about education: He was contrasting two traditional or conservative perspectives with two less traditional or progressive perspectives in educational theory and practice—in particular to argue for the superior value of the reconstructionist perspective, which he saw as the most promising path to democratic social change. His four categories were offered in response to now familiar late-19th- and early-20th-century debates about the purposes of education in

a changing society—one that was becoming rapidly more diverse demographically while urbanizing and industrializing at a disruptive pace. Dewey and others of similar mind argued that the old traditions in education could no longer suffice, while critics responded that the old traditions were needed now more than ever. Brameld characterized two variants of the more traditional position as essentialism and perennialism, and two variants on the less traditional position as progressivism and reconstructionism.

That these categories are taught today, with lessons and lectures posted on the Internet—often without attribution to any particular mid-20th century philosopher—creates a kind of reifying effect. It is as if these categories are objective, settled, and enduring knowledge in the field, and not acts of subjective interpretation that were offered in a particular context. It is something of an irony to notice that these terms have become inert knowledge, as the philosopher John Dewey might have characterized them, and objective categories to be learned as part of the tradition of the field. Such traditional knowledge was part of what Brameld was criticizing by making distinctions between essentialism and perennialism, on the conservative, more inert side, and progressivism and reconstructionism, on the more dynamic, socially responsive side.

As taught today, when they are taught, the meanings of essentialism and perennialism seem not to have strayed significantly from Brameld's original intentions. Though he viewed both positions as fundamentally conservative, Brameld saw perennialism as a classicist view that centered on the *perennial* value of the teachings and texts of classical Greece and medieval Europe—such as what Jefferson expected when he recommended Latin grammar schools for deserving youth in the state of Virginia. In contrast, essentialism was more changeable as great texts evolved over time and could be used to teach the great truths of human existence through a common core of *essential* cultural knowledge. Both were clearly teacher centered and curriculum centered, instead of child interest centered or social context centered, and both emphasized the development of traditional intellectual capacities and skills in mathematics, literacy, and reasoning.

Few educational theorists today would take something akin to a perennialist stance for all children and youth in schools; there is no public call for classics-based education for all, although college students and graduate students can still concentrate on the classics if they so choose. The essentialist view, however, is clearly alive in the use of the "great books" curricula in colleges and universities and in the Common Core State Standards movement in PreK–12 education. The Common Core Standards movement, at the time of this writing adopted by all but a few states in the United States, asserts that there is a body of knowledge, skills, and character traits that we rightfully expect all of our students to develop and that we should hold states accountable for providing this common learning. The argument is fundamentally grounded in democratic values of equity; but Brameld, like Dewey and contemporary critics of the common core, had serious questions about whether such a teacher- and curriculum-centered approach could serve most children well. These questions include the following: Does such an apparently equity-based philosophy make for good educational policy, or will a one-size-fits-all essentialist curriculum serve some children far better than others, depending on the social capital they bring to the school? Does essentialist common core thinking take sufficient account of the differences among children to ensure academic success for all of them, or will it favor some over others? These are the questions that, in part, motivated Brameld's concerns about essentialism and perennialism alike.

A related contemporary debate surrounds the "college for all" discourse in educational policy and practice in the United States. As the 20th century dawned, fewer than 10% of high school–age students graduated from secondary school, while a century later, it climbed to 67%, and at the time of this writing, it is a matter of national concern that only 75% of high school students graduate—the highest rate in decades, but leaving one million seniors who did not graduate high school. The concern among some theorists is that most jobs obtainable in postindustrial society by those without postsecondary education or training do not pay a living wage, in contrast to a time when high school dropouts could obtain more lucrative employment in business and industry—and send their children to college. While "college for all" seems like an appropriate aspiration for a society committed to equitable access to higher education and economic mobility, theorists today are asking, in effect, whether this is an essentialist perspective that again ignores the backgrounds and interests of literally millions of students who, on any evidence-based analysis, are unlikely to attend, much less graduate from, college. They are

asking what secondary education and postsecondary training and education should look like for these students.

In contrast to an essentialist curriculum of Common Core Standards and great books, critics are seeking ways to promote non-college-bound students' intellectual and emotional development and to prepare them to lead fulfilling lives after high school. They are seeking promising educational and economic alternatives for students who do not go to college. But such theorists find it difficult to even *talk* about alternatives to "college for all" without appearing to track students into second-class status in contemporary culture on the basis of their family incomes and ethnicity, an outcome familiar to mid-20th century educational theorists. The Common Core Standards and college-for-all positions are offered by their proponents out of consideration for democracy, equity, and high aspirations for all, but paradoxically, they are grounded also in essentialist theorizing that Brameld considered antidemocratic. This tension, highlighted by antiquated isms, remains unresolved today.

In 2013, poet and cultural critic Alice Walker published a short poem titled "Every Revolution Needs Fresh Poems." At some level, the isms approach of mid-20th century philosophy of education represented the poems of that time, but the poems certainly did not achieve the revolution (or even the reconstruction) that so many educational theorists intended. It is likely that fresh poems are needed.

Steven Tozer

See also Adler, Mortimer, and the Paideia Program; Common Curriculum; Cultural Literacy and Core Knowledge/Skills; Dewey, John; Progressive Education and Its Critics; Social Constructionism; Social Reconstruction

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Ethics in Research

Ethics in research covers three interrelated topics: (1) identifying and defining ethical principles and analyzing ethical issues entailed in the responsible conduct of research; (2) cultivating ethical behavior, including the capacity for ethical reasoning, to address dilemmas that arise in working with people in social, behavioral, and educational research; and (3) regulating ethical conduct.

Research here is defined—in accordance with the Common Rule of the U.S. Department of Health and Human Services, a U.S. federal policy regarding human subjects protection that applies to 17 federal agencies and offices—as any form of systematic investigation involving human subjects. This includes studies conducted via surveys, questionnaires, interviews, focus groups, case studies, experiments, observational techniques, and ethnographies, as well as research development, testing and evaluation, designed to develop or contribute to generalizable knowledge. (Ethics in research is also concerned with research that involves animals. Often, this is referred to in terms of *compliance*—with, e.g., the U.S. Public Health Service Policy on Humane Care and Use of Laboratory Animals—rather than *ethics*, yet the ethical treatment of animals in research is a subject in its own right.)

Ethical Principles and Issues

In discussions of ethics in research, attention is often focused on principles and issues that relate to working with human subjects or respondents in research. As discussed in the 1979 Belmont Report prepared by the National Commission for the

Protection of Human Subjects of Biomedical and Behavioral Research, these include

- respect for persons and their right to make decisions for and about themselves without pressure from the researcher;
- beneficence (and nonmalfeasance, i.e., do no harm) or the obligation to maximize the benefits and to reduce risks to participants in a research or evaluation study; and
- justice or the obligation to distribute benefits and risks equally without prejudice to particular individuals or groups, such as individuals with disabilities or members of a particular race or gender.

It is on the basis of these principles that the familiar notions of voluntary participation in research, informed consent, and assurances of confidentiality are discussed as central ethical issues in research practices involving human subjects.

However, ethics in research also involves ethical principles, such as honesty, integrity, transparency, accuracy, objectivity, impartiality, and trust, especially as these apply to aspects of the research enterprise other than working with people as the subjects or respondents in a study. Ethical considerations arise in all aspects of the research undertaking, encompassing what is commonly referred to as the responsible conduct of research. Conscientious, dutiful, and ethical behavior in research includes matters relating to advising and mentoring, authorship and the allocation of credit, peer review, conflict of interest, intellectual property rights, data management (includes processes for collecting data as well as issues in data ownership and the sharing of data), and research misconduct defined uniformly across U.S. federal agencies as fabrication, falsification, or plagiarism in proposing, conducting, or reviewing research and in reporting research.

Ethics in research also encompasses issues in the field of international research ethics, including the obligations of wealthy nations to ensure that the research they conduct in low- to middle-income countries is relevant to local populations and to take into account the impact of cultural differences on the interpretation and implementation of ethical principles and oversight.

Ethical Behavior and Reasoning

In the preparation of researchers, education and training in research ethics extend beyond reading the customary chapter on research ethics in the standard research methodology textbook. In the United States, every university and organization that receives federal funds for its research provides some form of required training, often using a subscription service to access online instructional modules, such as that provided by the nonprofit Collaborative Institutional Training Initiative. In addition, universities provide courses in research ethics in their curriculum and also offer special workshops and seminars.

In a widely cited formulation, the moral psychologist James Rest argued that ethical behavior is the outcome of four processes:

1. Moral sensitivity (the capacity to recognize the ethical issue at hand)
2. Moral judgment (competence in deliberating alternative courses of action and reasoning about what ought to be done)
3. Moral motivation (personal commitment to action and acceptance of responsibility for the outcome of one's action)
4. Moral character (persistence in the face of the temptation to take the easy way out)

Education in research ethics addresses these processes, particularly focusing on the skills of empathy and perspective necessary to cultivating moral sensitivity as well as the capacities needed to engage effectively in moral reasoning (e.g., grasping the features of the social context of the problem, gathering relevant facts, recognizing who has a stake in the outcome, analyzing and evaluating possible actions, and reflecting on one's action). Case-study methods, checklists, key question lists, and steps in critical thinking are four of the more common decision-making formats or guidelines used in the teaching of ethical reasoning. Research ethics education can also include instruction in ethical theories, including virtue ethics or the ethics of character or (what sort of people should we be) as explained in Aristotelian theory or the ethics of conduct (what sort of actions should we perform) as explained in consequentialist theories (e.g., utilitarianism) or deontological theories (e.g., Kantianism).

Ethical Regulation

Ethical conduct is regulated in four ways. First is self-monitoring on the part of the researcher. Assuming that individuals have developed the kind of moral motivation and character that Rest identified, they would be likely to reflect regularly on the

wisdom of their actions and modify their behavior as demanded in new circumstances. Second, monitoring takes place via codes of conduct as found in professional societies, for example, the American Psychological Association's *Ethical Principles of Psychologists and Code of Conduct*, the American Educational Research Association's *Code of Ethics*, and the American Evaluation Association's *Guiding Principles for Evaluators*. These codes set norms for what members of the profession expect and are intended to foster accountability and responsibility. Of course, these are guidelines for what is expected in professional behavior, although in some cases, there is a suggestion that they will be backed up by sanctions.

Third and fourth means of regulating ethical behavior are governmental regulations and institutional policies, both closely related. There are many federal rules, regulations, and guidelines having to do with ethical conduct in research, including the U.S. Public Health Service Policies on Research Misconduct, the Department of Health and Human Services Regulations, the Federal Whistleblower Protection Act, the Privacy Act as amended, and policies of individual departments—Agriculture, Justice, Interior, Commerce, Education, Energy, Transportation, and Labor. In addition, agencies such as the National Science Foundation, the National Endowment for the Humanities, and the National Institutes of Health each have their own policies and procedures regarding the responsible conduct of research. The National Science Foundation and National Institutes of Health require that all undergraduate and graduate students, postdoctoral researchers, and professors doing research (or supported on fellowships) funded by either agency must have training in the protection of human subjects in research. Each institution is responsible for the content and the delivery of training and its frequency.

The Common Rule requires that every institution or organization doing federally funded research must have an independent ethics committee or ethical review board that reviews all research involving human subjects. This Common Rule also specifies the composition of such a committee. (Each federal agency that funds research may have additional requirements for makeup of membership of the committee.) An ethics committee or, as it is more commonly known, an institutional review board (IRB) is charged with reviewing the informed consent process, appraising the balance of the risks to human subjects with the benefits to either them or society at large, and ensuring the equitable selection of subjects. An IRB must carry out these duties based on a thorough assessment of all aspects of the research design and systematic consideration of alternatives. In view of these and many other federal regulations, institutions (e.g., universities, hospitals, and private research firms that receive federal money) must have IRBs in place and must have procedures for determining research misconduct and conflict of interest, as well as training programs for ethical issues for all researchers who deal with human subjects (and animals). The U.S. Office of Research Integrity reviews and monitors the work of IRBs and pays particular attention to whether institutional policies for addressing charges of research misconduct are in line with federal regulations.

Thomas A. Schwandt

See also Ethics in Teaching; Rights: Children, Parents, and Community

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Ethics in Teaching

In one obvious sense, the question of ethics in teaching is more straightforward than complex. The ethics to be followed are simply those of the controlling body, or authority. So if one is teaching in a faith school, the conduct of teaching is informed by the ethics of the religion in question: Catholic, Episcopalian, Muslim, Jewish, and so on. If one is teaching in a state school, the ethics are those authorized

explicitly or implicitly by the state: explicitly through a body of prescriptions and proscriptions, or implicitly through curriculum and assessment requirements that promote compliance with certain practices rather than others. Variants of a state-authorized ethics of teaching are to be found in democracies as well as in totalitarian countries, in local education authorities as well as in nationwide educational systems.

In the above account, the ethics of teaching as a practice are to be determined less by teachers themselves than by major institutional interest groups. These latter have historically included religious bodies, political parties, state bureaucracies, and business interests. More recently, they have also included cultural, ethnic, linguistic, and parental groupings. Indeed, struggles over the control and the ethical tenor of education by bodies other than educational practitioners are among the most prominent themes in the history of Western education. This entry examines the sources and justification of ethics in teaching, the development of practitioner codes for teachers, and the place of formal codes of conduct in the field of education.

A central assumption in the historical struggles over the control of education, and one that helps explain the pattern they have taken, is that teaching as a practice does not have an inherent ethics of its own; or that if it has, such an ethics remains subordinate to the ethics of a superior, controlling body. Here, however, the ethics of teaching remain essentially contestable, bound as they are to the "philosophy of life" of contending parties or individuals. Such contestation is likely to be chronic unless one or another of the contesting parties becomes the stronger party by securing political power.

Following this account to its logical conclusions, it would mean that there is no significant sense in which an ethics of teaching might be comparable with the ethics of other practices, such as medicine, nursing, or engineering, for example. Of course, in few, if any, practices, "Can practitioners themselves be the sole arbiters of the ethics of the practice?" But where the practitioners are a minor or unheard voice, questions arise about the coherence and defensibility of the goals the practice exists to serve.

This would be a rather cheerless conclusion to draw for a practice whose origins *as a practice*, at least in Western civilizations, granted substantial autonomy to educators. In classical Greece, the schools of the Sophists on the one hand and the more participatory Socratic learning environments on the other were *both* free from control by a superior body. That is not to say that either form was free from external appraisal. The worldly ethical orientations of the Sophists' schools seem to have enjoyed unconstrained scope in Greek society. In contrast, the ethic of critical and self-critical inquiry practiced in Socratic educational circles eventually brought trouble on Socrates's head and on this form of education. The loss here was to become an enduring one, as a Socratic ethical orientation was to become more an eclipsed than a defining feature of education in Western civilizations. The ascendancy of Aristotelian and Platonist (more precisely neo-Platonist) influences became decisive in the educational institutions of Western Christendom. A Platonized Christianity became, in effect, the stronger party, and remained so. This curtailed the possibilities for the rise of a tradition of intrinsic ethics in teaching.

Following the publication of Jean-Jacques Rousseau's *Émile* (1762), Immanuel Kant's essay of 1784, "What Is Enlightenment?" voiced a further rebuke to a paternalistic ethics in education, castigating "the guardians who have so benevolently taken over the supervision of men." Kant declared, "Enlightenment is man's emergence from his self-imposed immaturity . . . the inability to use one's understanding without guidance from another" (p. 1). Echoes of this emancipatory note feature in the writings of Johann Heinrich Pestalozzi, Friedrich Froebel, John Dewey, and others, where elements of an intrinsic ethics of teaching are discernible, sometimes prominently so. Yet such writings—even Dewey's—do not make the ethics of teaching an explicit theme of a major work.

Richard Peters's major study of 1966, *Ethics and Education*, attempts just this. In seeking a universal justification for educational actions, Peters closely analyzes concepts like knowledge, understanding, cognitive perspective, equality, freedom, respect, authority, democracy, punishment, and discipline. He also reviews theories of justification like naturalism, intuitionism, and emotivism with a view to advancing his own positive theory, applying Kantian reasoning to ethical concepts in education and seeking to justify them in a universal sense. For instance, in relation to equality in education, he writes, "The general principle of no distinctions without differences is a presupposition of practical discourse, or that it is presupposed in any attempt to determine what ought to be done" (p. 121). Helpful as this approach might be as a general orientation (it would apply as much to politics, business, or public

administration as to education), it is not an ethics of teaching. An ethics of teaching, like an ethics of nursing or of engineering, is in the first place a *practitioner ethics*. It is linked inextricably to the goals of the particular practice in question. Peters clouds this point by claiming that "education raises no philosophical problems that are *sui generis*" (p. 17). In other words, education raises no ethical issues that aren't also raised in other walks of life. Even if one grants this claim, the more central issue for any practice lies in the *manner* in which ethical issues arise within the practice, and also in the *relative weight* to be given to different ethical principles when they come into conflict within the conduct of the practice. There are important differences between one practice and another on this, each practice being informed in the first instance by the coherence of its own central goals.

At a political level, many countries in recent decades established statutory teaching councils, or "colleges of teachers." Such bodies approve and publish ethical codes for teaching, and they mark a historic advance in establishing the ethics of teaching as a substantive domain. The formal character of such codes enables them to serve well as regulatory instruments, as for instance in providing clear criteria for fitness-to-practice investigations. But this formal character also gives primacy to an ethics of duty over an ethics of justice, of care, of vigilance, and so on in the conduct of teaching. It thus tends to favor compliance over deliberation among practitioners. At a philosophical level, theories of ethics do something comparable if they seek to furnish an ethics of teaching. For instance, Nel Noddings's instructive work *The Challenge to Care in Schools* (1992) gives primacy to an ethics of care, which provides more fertile inspirations than an ethics of duty for the actions of practitioners. But its priorities may yet deflect attention from other kinds of considerations that also need to be given weight in the actions that build vibrant, just, and safe learning environments.

Where a truly productive ethics of teaching is concerned, it is necessary that the deliberations and decisions of practitioners, including educational leaders, are afforded some promising pathways and defensible grounds for action. The main emphasis of such an ethics would not be on the alignment of practice to one or another ethical theory. Rather, it would be on the illumination of deliberations and decisions in *a context of specific educational action*—for instance, when principles of care conflict with those of justice in the assessment of students' work, or where there are recurring tensions between concerns for quality and for equality in building and sustaining fruitful learning environments. Such deliberations would be informed in the first instance by some coherent articulation of the central goals of education as a practice in its own right. That is to say that an ethics of teaching is a less than coherent notion unless education itself as a human undertaking and the practices of teaching that promote the undertaking are conceived of as substantive rather than subsidiary.

Pádraig Hogan

See also Autonomy; Church and State; Dewey, John; Kant, Immanuel; Noddings, Nel; Peters, R. S.; Rousseau, Jean-Jacques; Socrates and Socratic Dialogue; Sophists; Teaching, Concept and Models of

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Ethics of Care

See Noddings, Nel

Ethnicity and Race

Human groups are invariably defined by their borders. From families to states, all groups do elaborate work mixing fact, fear, and fancy while deciding who they are by imagining who they are not. Racial/ethnic groupings are systematically arbitrary:

They easily could be otherwise, but their borders are often strictly enforced and correspondingly volatile. Certainly, racial/ethnic borders figure large in struggles for equal access to economic and educational resources. Late-20th-century inquiries into how they operate—or who they operated on—have shifted focus from the essential characteristics of the groups to the dynamics of power and privilege along the borders to which they must adapt. The focus has shifted from what the groups know, believe, or desire to the circumstances under which they must make their way.

Racial/ethnic borders usually divide groups by access to power. The less powerful have articulated the duality of their situation in ways the more powerful rarely recognize. In *The Souls of Black Folk* (1903), W. E. B. Du Bois reported that White America

> yields him no true self-consciousness, but only lets him see himself through the revelation of the other world. It is a peculiar sensation, this double-consciousness, this sense of always looking at oneself through the eyes of others, of measuring one's soul by the tape of a world that looks on in amused contempt and pity. (p. 3)

Sixty years later, in *The Fire Next Time*, James Baldwin reworked the point: That without White people, there would be no "Negro problem" and in fact no "Negroes in this country—[as] Negroes do not, strictly or legally speaking, exist in any other" (Baldwin, 1962/1995, n.p.). Racial/ethnic categories are reciprocally defined. Groups develop identities—and counteridentities—dependent on the groups around them. It is a mistake—or an act of violence—to categorize racial/ethnic groups in essentialist terms.

The key terms have been hundreds of years in the making. Excited by traveler accounts, medieval Europe imagined the other side of its distant borders populated with grotesque human beings: the *homo monstrous*. In the mid-1700s, Carl Linnaeus attempted taxonomies of all living things. He broke humans into five races: four defined by continent, skin color, and personality traits, and then a fifth, a catch-all category for leftovers: the *homo monstrous*. The first four designations—European, African, Asian, Amerindian—fill the commonsense categories of kinds of people to this day, and the stereotypes Linnaeus tacked on are unfortunately still recognizable: European (sanguine, inventive, and driven by law), African (phlegmatic, indolent, and driven by whim), Asiatic (melancholy, severe, and driven by opinion), and Native American (choleric, obstinate, and driven by custom). His fifth race disappeared from serious accounts of human variation, although *homo monstrous* has survived in the shadows of the other four, ever ready for political intrigue, with each race potentially monstrous to the others.

Linnaeus took a strong hold on Western thought. Even the most liberating thinkers—David Hume and Immanuel Kant—speculated, with unreliable information, on the inabilities of various races. Other thinkers—Gottfried Leibnitz on Chinese philosophers in 1699 and Henri Grégoire on the achievements of people of African descent in 1808—used the same stock of facts to intuit what might be wonderful across racial borders. Either way, the fundamental assumption—that there are categories of people with inherently differential capacities for cultural accomplishment—went unquestioned. After Linnaeus, race became a scientific fact; after Charles Darwin, an evolutionary fact; and after Gregor Mendel, a genetic fact. Europeans investigated the facts: The number of races and their potentials were disputed, differential intelligence (a rare consideration before modern European cultures) became a scientific and biological fact, and White people dreamed of measuring intelligence across groups.

By 1900, racial theories celebrating White people and the rise of European civilization were countered by fact-filled arguments. Cross-cultural research became the center of antiracist inquiry. Franz Boas organized anthropology into four fields—cultural, physical, linguistic, and archaeological—each used to produce data-driven comparative inquiries into human capacities tuned to the affordances and constraints of various environments. For Boas, race, language, and culture are not inherently tied to each other, and any human being can, with proper socialization, participate fully in any culture. His major work, *The Mind of Primitive Man* (1938), showed that any human group, of any physical type, with any language, in any culture, can raise individuals rich in potential.

Across the 20th century, the scientific status of race declined, while racism remained rampant. Biologists no longer treat race as a variable in human potential, but biological systematics are generally irrelevant to racist convictions. Racists can focus on arbitrary phenotypic traits—skin color, hair type, and nose shape—in whatever percentages they please: Only a hint of African descent can make

a person Black in the West; only a hint of Caucasian descent can make a person White in Africa. Wobbly categories feed the prejudices with which they are used, and descriptions of race groups say more about their authors than about the people inscribed.

Boas critiqued scientific racism by finding more variation within than across named race groups. His findings were based on caliper measures of body proportions; mid-century anthropologists added similar conclusions with serological data, and geneticists have confirmed the results with data from inside cells.

While racial categories were losing scientific status, criteria for building hierarchies of cultural achievement came into question. Boas's era worried about how often and why civilization emerged in the ancient world. (Answer: six times; as to why: auspicious ecological conditions fitted to the right toolkit for a long time.) The original question–answer pair promised a celebration of the West's evolution from savagery and barbarism (loaded terms of the day), but by mid-century, *civilization* became a technical term for organizational achievements—large urban centers, a state apparatus, armies, hydraulic works, monumental architecture, craft specialties, a priestly class, and careful record keeping—regardless of intellectual or moral progress. Civilizations produced advanced capacities for and a record of cruelty and destruction. In contrast, the opposite of civilization, the so-called primitive, gained positive value.

For 50 years, race and ethnicity researchers have relied on modes of analysis similar enough to allow the term *racial/ethnic*. The terms also can be contrasted by the relentlessness of color racism and the situational flexibility of ethnic boundaries. So it is noteworthy that Irish and Jewish populations were once classified as non-White and transitioned (unevenly) to White racial status in the 20th century, but not noteworthy that, as White ethnics, they can negotiate—even ignore—their borders; a simple change of clothing, surname, or dialect might allow an identity shift. Another contrast is the ubiquity of interracial degradation and the occasional enormity of interethnic violence; the former, however unpleasant, can maintain a steady state, while the latter explodes more often into genocidal warfare.

Reconfigured ethnic borders can be surprising. Two thirds of the earth's population, one third of its languages, and a few of its races (however classified) live in Asia. Imagine the diversity of racial/ethnic categories that could be applied to populations from Pakistan to Japan. Now imagine them under a single ethnic category in one place: Asian American. In *Reading Asian American Literature* (1993), Sau-ling Wong embraced this multiracial–cultural–national–linguistic ethnic union for its irony and political import. Asians were the only people denied entrance to the United States on racial grounds. Although the "Oriental" racial tag has been suppressed, new circumstances have brought the various groups together. In the new politics of ethnic categories, says Wong, timing and calibration are what counts. Even the borders isolating and protecting White people are changing, conversationally anyway, and sociolinguists have been documenting how White people must explain themselves in accord with current racial/ethnic arrangements. If borderlines between race groups soften, new ethnicities can emerge.

Shifting categories aside, ethnic borders can be continually renewed under diverse conditions across centuries. Borders can be stored in seemingly invisible places. Jewish people are not required for anti-Semitism to inflame political discourse in modern European nations (and in other, surprising, places, from modern Japan to villages in Mexico). Deep ethnic tensions in Soviet bloc countries disappeared under a half-century of strong central control only to explode under postsocialist conditions. Protestant–Catholic troubles in Northern Ireland fluctuate with unemployment rates but never disappear from neighborhood associations and marriage patterns.

Economic and power differentials dividing groups by locale, purpose, and sentiment are more constant than ethnic identities. Named groups can change, but their borders remain. When Polish, Italian, and Irish Catholic children attended their own schools in northern American cities before World War II, they had to run—not walk—through each other's neighborhoods, but after the war, the same groups moved to mix-and-match postethnic suburbs. Among the circumstances: a few million Latino and African American migrants moving to the cities. White ethnics are replaceable if others fill their slots when conditions organizing borders are more important than the characteristics of the people divided by them. When British geographers drew arbitrary borders in Ireland, India/Pakistan, Cyprus, and the Middle East, they cut through delicately nuanced groupings that had maintained difficult situations without uncontrolled violence, and the price has been heavy.

Ethnic groups and their tensions—schoolchildren escaping neighbors; terrorists in Ireland, India, and the Middle East—arise in resistance to and in cahoots with surrounding conditions extending to far-off points of contact and control. Disputed

borders, even those not in the highlights in global news—between spatially stable and transhumant groups in southern Iran, and between Moslem seafarers, pagan farmers, and Christian overseers in the war-torn southern Philippines—originate in conditions rooted in distant markets. Ethnic relations are increasingly tuned to how capital and culture work their way and sway around the world. In their book *Ethnicity, Inc.*, John and Jean Comaroff (2009) have gathered examples of a worldwide craze by which ethnic groups are selling their "natural" identities to tourists, nongovernmental organizations, and entertainment venues under desperate conditions that have made selling cultural products and the "simulacra of ethnicized selfhood" one of the few means by which members of some ethnic groups can survive. If 20th-century analyses have shifted from essential traits to local conditions edging ethnic finery into high visibility and contestation, 21st-century inquiries add accounts of global capital and population flows as the widest contexts for group conflict and commodification.

A final question: Given the vicissitudes of racial/ethnic phenomena, how can they consistently correlate with school success and failure? An answer: Racial/ethnic tensions, in tandem with poverty, are built into the daily practice of schools. The very institution designed to make borders unimportant has been co-opted into enhancing them. The shift from essentialist to more contextual views of racial/ethnic borders reformulates minority school failure by eschewing questions about what is wrong with individual children not learning to answer questions about how borders get re-created in schools.

Categories for racial/ethnic groups are tightly tied to measures of social class and educational risk, often stated in an established, but misleading, three-step order. First, racial/ethnic identities are defined as traits given at birth and made negatively consequential by prejudice and unequal conditions. Second, class is defined as mostly undesirable traits socialized into children with limited opportunities. Third, because racial/ethnic and class inequities are thought to suppress normal growth and development, minority and poor children are most at risk of school failure. This diagnosis lives in cultural preoccupations feeding a general bias: White middle-class lives offer children the best of all worlds. The bias leads to a disappointing policy of victim blaming the oppressor. Fix the children and racial/ethnic and class barriers to democracy can be toppled one person at a time.

An alternate three-step theory is possible. First, human variation offers a complex quilt of physical traits that can be dissected and highlighted to various ends. Second, because jobs, money, education, and degrees are the stuff of privilege, class can be redefined by access to resources regardless of the traits of individuals. Third, risks built into high-stakes politically manipulated win/lose contests like norm-referenced tests are a way of making racial/ethnic and class differences legitimate. This alternative order shapes a blame-the-oppressor bias: Because schools suppress normal growth and development for everyone in favor of preparation for tests well tuned to the established order, immigrant, minority, and poor children—being less receptive to the arbitrary but standardized curriculum—are most at risk of failure. The message to educators also changes: Failing children do not need to be fixed as much as they need, as does everyone, a learning curriculum connected to reality and eventual employment.

By this reformulation, the analysis of race and ethnicity in education can focus less on *what* traits correlate with what outcomes and more on *how* school outcomes are made to correlate with the categorically flimsy data of ever-shifting, ever-shifty, racial/ethnic traits. New analyses should show *how* racial/ethnic borders get done: by what work, by what schedule, in response to what demands, and how far away in the world?

Ray McDermott

See also Anthropology of Education: Main Traditions and Issues; At-Risk Children; Identity and Identity Politics; Racism and Multicultural Antiracist Education; Social Class

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Evaluation of Educational and Social Programs: Models

Program evaluation is the systematic determination of a program's value (merit or quality, worth, or significance). It is a form of disciplined inquiry that involves careful design of a study to take into account program objectives and outcomes as well as issues of greatest concern to stakeholders, rigorous procedures to gather credible evidence of program value, and transparent, justifiable processes for linking evidence to evaluative conclusions. This entry discusses several approaches to program evaluation: results-based approaches, social value approaches, process-oriented approaches, stakeholder-oriented approaches, and program-theory approaches.

An educational or social program is an organized collection of activities and processes aimed at achieving particular objectives, for example, an early childhood intervention program implemented statewide providing a range of educational, medical, and social services to enhance young children's development and learning and to provide support services to families; an after-school science program for middle school children delivered in an informal learning setting such as a Boys and Girls Club designed to advance science learning as well as attitudes toward science; a case management program implemented in a large urban city intended to prevent recurrent homelessness in people with mental illness; career academies that operate as small learning communities within low-income high schools providing academic, career, and technical courses and workplace opportunities in cooperation with local employers; and a high-intensity supervision program for probationers at risk of probation violation designed to reduce the incidents of rearrest. Programs vary in complexity depending on their level of maturity (i.e., a relatively new program versus one that has been operating for several months or years); the social political circumstances in which they were conceived (i.e., the program's political profile, the types and degree of risk inherent in the program); the social, political, and cultural contexts in which they are implemented; the number of sites in which they are offered; the number of participants involved; and the range, complexity, and duration of activities that constitute the program.

Program funders and stakeholders (parents, program managers, direct service providers, the general public, etc.) are often interested in whether a program has had its intended effect(s) and whether those effects were achieved in a cost-effective way. They may also be interested in how a program might be improved, whether it was perceived as worthwhile by program participants, whether program goals were reasonable and worthy of pursuit, and whether effects other than those intended resulted from the program.

Evaluation Models

It is questionable whether the term *model* is the correct designation for the extensive variety of evaluation approaches that scholars and practitioners have developed in the past 40 years. If the term *model* is used in the sense of a scientific model—an approximation or representation of a real system or phenomenon—then what we find in evaluation are not models per se but rather different interpretations of and perspectives on the purpose of evaluation and how it should be conducted. Thus, the terms *framework*, *orientation*, or *approach* are probably more semantically correct designations. While there is considerable disagreement on how these many approaches should be classified, generally speaking, they are distinguishable in terms of what they put forward as the primary organizing principle for program evaluation. The families of approaches presented below are not mutually exclusive—there is

nothing in principle preventing the combination of evaluation approaches in a single evaluation study. What constrains the choice of approaches are practical matters including costs of implementing a particular approach in view of available funds, evaluator experience and preferences, timelines, contract requirements as reflected in an evaluation's terms of reference, and so on.

Results-Based Approaches

What this collection of approaches has in common is a primary focus on (1) whether stated program goals, targets, or objectives were met—this is often referred to as outcome evaluation or outcome monitoring, or on (2) program effects or outcomes regardless of whether they were intended or unintended—this is commonly called impact evaluation. Some evaluators concerned with this second focus practice what is called "goal-free evaluation" and argue that programs ought to be evaluated not on what they are trying to do (i.e., not on what their stated goals are) but on what they actually accomplish.

Impact evaluations are primarily interested in the causal question in the generic form "what is the effect of a known cause," where the cause is the program in question. Impact evaluations are often designed to test the counterfactual—that is, a comparison between what happened and what would have happened in the absence of the particular program.

Impact evaluation approaches differ in the way the cause–effect relationship is examined. Some treat the program as a black box and focus on mean differences between the group of individuals who went through the program and the group that did not (or who received some alternative program). Others endeavor to get inside the black box and explain the causal mechanisms by which the program works (see the discussion of program-theory approaches below). Still other results-based approaches rely on systems thinking and complexity science to grasp how program effects are to be understood and explained. System effects or system–context interactions are of particular interest to evaluators working in fields like public health where the effects of a given public health intervention (e.g., a smoking cessation program or an obesity prevention program) are not necessarily a direct result of a single intervention but of the complex interaction of that intervention with other interventions, health policies and practices, the norms and practices of service-providing organizations, client behaviors, and so on in a given community.

Although referred to as research rather than evaluation, comparative effectiveness studies in the field of health care are a results-based evaluation approach. These studies compare the effects of two interventions (therapies, drugs, surgeries, means of health care delivery, etc.) to determine which works best for particular patient populations and what benefits and harms are associated with each intervention.

Social Value Approaches

In public and private sectors, there is strong interest in the development of quantitative indicators (metrics) that reveal the social or public value of investments in programs. However, it is widely acknowledged that there is no agreed-on, authoritative definition of social value and that metrics used to assess social value often conflate measuring social impact with demonstrating accountability to external stakeholders. Some scholars argue that real-world problems and the programs (interventions) designed to address them cannot be captured with the kind of precision that measures of social impact demand. It is often quite difficult to quantify let alone monetize the benefits of various kinds of social programs (e.g., the benefit of living in a more just society; the consequences of antiracist programs).

The most common social value evaluation approaches are cost–benefit and cost-effectiveness analysis, but there are dozens of others, including ex-ante stated preference analyses, that ask people what they would pay for a given service or outcome; social return on investment assessment; and value-added analysis, as has been employed, for example, to determine how much teachers add to the overall quality (academic performance) of their students. In the field of development evaluation, quality-of-life indicators, such as the United Nations Development Program's Human Development Index or the Organization for Economic Co-operation and Development's Better Life Index, are used as proxy measures in evaluating the collective outcome of multiple social and educational interventions affecting the general well-being of societies as a whole.

Process-Oriented Approaches

These approaches are focused on evaluating program implementation and are typically concerned

with what is done, when, by whom, to whom, and how well. Evaluations of this kind pay careful attention to

- describing the operating environment or context(s) of a program;
- the actual processes involved in the program (e.g., planned and unplanned participant interactions, extent and nature of participation, nature and duration of program activities such as use of technology, training, workshops, or counseling); and
- problems encountered in program delivery, modifications made in original delivery plans, the addition of new program objectives, and so forth.

Evaluations of this kind can be used to determine the feasibility of a program during a pilot stage, whether a program was implemented as planned (often a serious concern in programs with multiple sites where local factors or circumstances can either facilitate or interfere with the reliable implementation of a program), and/or program effort. Process evaluation can provide decision makers with information useful in improving, refining, modifying, and, in some cases, discontinuing a program by delivering information on a program's circumstances or situation (changing conditions that affect the implementation of a program) and on program performance (progress on achieving intended results).

Progress monitoring is an example of a process-oriented approach. Take, for example, the case of a school district that implemented a response to intervention model (according to the National Center on Response to Intervention, this involves designing and implementing a process to identify students at risk for poor learning outcomes, monitor student progress, provide evidence-based interventions, adjust the intensity and nature of those interventions depending on student response, and identify students with learning disabilities or other disabilities). The district might develop a progress-monitoring system to determine whether all teachers are successfully implementing the response to intervention model across all classrooms in the district.

Stakeholder-Oriented Approaches

Stakeholders in an evaluation include individuals and groups with an interest in program outcomes. They include individuals involved in operating the program (e.g., program managers, service providers), individuals (or agencies) funding a program, individuals served by the program (program beneficiaries), individuals or collectives indirectly affected by a program (e.g., citizens in a community receive indirect benefits because the community has a vigorous program to help women who are victims of domestics abuse), and individuals who will use the evaluation to decide something about the program. Stakeholder-oriented approaches are first and foremost concerned with how an evaluation includes and serves these groups of individuals. It should be apparent that deciding just who among these stakeholders should be involved in evaluation, and how, is a topic of considerable discussion and debate among advocates of stakeholder-based approaches to evaluation.

This family of evaluation approaches includes those that are referred to as participatory, collaborative, empowerment oriented, client or stakeholder oriented, appreciative, and responsive. Distinguishing characteristics of these approaches include a focus on locally relevant evaluation questions, efforts to be directly responsive to issues and concerns of the most immediate stakeholders, and the involvement, to varying degrees, of stakeholders in the evaluation. In collaborative approaches, evaluation becomes a shared responsibility of the evaluator and key stakeholders. In participatory and collaborative evaluation approaches, stakeholder participation can range from being active in the design of the evaluation to roles in the collection and analysis of data as well as reporting. Participatory evaluation can also take two forms: one more or less practical and utilization oriented and another more or less transformative and focused on empowerment of participants in the evaluation. Stakeholder-based approaches to evaluation can be used to build evaluation capacity with an organization (i.e., a "culture" of evaluation) and to enhance and sustain critical, reflective organizational learning. Responsive evaluation orients to the uniqueness of a program in context and the plurality of views, expectations, and standards that attend program performance; its essential feature is attention (responsiveness) to critical issues and concerns raised by those most familiar with a program.

Culturally responsive evaluation has arisen in recent years as an important development in stakeholder-based approaches. It argues that culture defines the context in which particular conditions come to be defined as social and education problems,

the ways in which programs are developed as solutions to those problems, the way programs are theorized (see below) and implemented, and the way in which evaluation evidence is gathered and findings are interpreted. Culturally responsive evaluation strongly emphasizes that evaluators must not only be cognizant of these aspects of culture in evaluation but also be competent in designing and implementing an evaluation that takes these aspects fully into account.

Program-Theory Approaches

Program-theory approaches are concerned with how a particular program actually works—they focus on developing an explicit theory of how a program is expected to bring about desired change and testing assumptions that underlie such a theory. These approaches to evaluation endeavor to get inside the black box of a program to understand how various components of a program work in concert to produce desired outcomes. A program theory is often graphically represented using a logic model (also referred to as a program matrix, theory of change, theory of action, or logical framework). The model displays logical links among program inputs (human, financial, and organizational resources directed toward the program), activities (processes, events, and actions such as recruitment, screening, workshops, training, counseling, appraisals, assessments, etc., that constitute program implementation), outputs (direct products of activities such as types, levels, and targets of services), and short-term, intermediate, and long-term outcomes (specific changes expected in program participants' behavior, knowledge, skills, status, level of functioning, etc.).

These models can be both descriptive (how the program actually works) as well as normative (how the program is supposed to work). Program-theory approaches use such models to guide a variety of evaluation activities and decisions, including identification of program dimensions most critical to program success, selection of appropriate measures and observations, identification of successes or failures in various aspects of program implementation, and interpreting evaluation findings. In many versions of program-theory approaches, stakeholders are directly engaged in the process of developing the program theory as an essential step in evaluation planning. Some scholars advocate combining impact evaluation with a theory-based approach to create theory-based impact evaluation. They argue that such an approach enhances the policy relevance of an evaluation because it becomes possible to understand the reasons for differing levels of program participation and the processes responsible for affecting changes in the behaviors of participants. A particular version of theory-based impact evaluation known as realist evaluation holds that programs "work" for different people in different ways and thus an evaluation must uncover the links between mechanisms that trigger individual behavioral change and contexts that enable or constrain such mechanisms; hence, context + mechanism = outcome.

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See also Case Studies; Connoisseurship and Educational Criticism; Curriculum, Construction and Evaluation of; Experimental and Quasi-Experimental Designs for Research: Campbell and Stanley; Qualitative Versus Quantitative Methods and Beyond

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Evidence-Based Policy and Practice

The idea that professional practices such as education should be based on or be informed by research evidence has, over the past two decades, become influential in policy, practice, and research in many countries around the world. The aim of this entry is to clarify what the idea of evidence-based policy and practice entails, to trace its rise in the field of education, and to discuss a number of critical issues that have been raised in the literature.

The Idea of Evidence-Based Education

The suggestion that education should become an evidence-based profession emerged in the 1990s. In part, it resulted from concerns about the quality and significance of educational research, where it was argued that such research was not generating useful knowledge. It also arose out of concerns about educational practice, where it was argued that much of what was going on had no basis in research evidence. The idea that research evidence should play a role in professional fields such as education is not without reason, because professions, unlike other areas of work, lay claim to having specialized knowledge and skill. The question, therefore, is not so much whether or not evidence should play a role in education but what kind of role it can play and also what role it should play.

Opinions are clearly divided on this issue. The most vocal arguments have been made by those who argue for a very particular kind of evidence—usually referred to as evidence about "what works"—and for the use of one specific research design, namely, the large-scale randomized controlled trial. The key idea of this design, which stems from research in fields such as medicine and agriculture, is that the effectiveness of a certain intervention or treatment can be tested by comparing a treatment group with a control group and by randomly allocating the treatment. If the treatment shows the expected effects in the treatment group, but there is no change in the control group, it can be assumed that the treatment or intervention works.

Many proponents of the idea of evidence-based education not only have argued that such evidence might play a role in educational policy and practice but also have taken the stronger position that educational policy and practice should be based on such evidence. Some have even argued that teachers and policymakers should not be allowed to do anything for which there exists no conclusive scientific evidence of its "working." A key question here is whether scientific evidence should ultimately *replace* professional judgment and decision making or whether it should play a role in informing such judgment and decision making. This is sometimes captured in the distinction between evidence-based education and evidence-informed education.

What Works: For What?

While the idea that education should be based on evidence about "what works" sounds attractive, and while it could be argued that questions about what works are at the forefront of teachers' everyday concerns, the idea that teachers just need to implement scientific knowledge about "what works" in order to be good teachers is both simplistic and misleading.

One problem with the idea of "what works" is that it tends to forget to ask the question what a particular way of doing is supposed to work *for*. The problem here is not only that discussions about "what works" in education tend to pay little attention to the more difficult question what education is supposed to work *for*. More important, it is also that educational actions and activities never "work" or aim to "work" in relation to one particular outcome or result but always in relation to a number of different areas or domains. It is, after all, not only that we want our students to acquire particular knowledge or master particular skills. At the very same time—if, that is, our overall aim is not that of indoctrination but of education—we also want our students to be able to think and judge for themselves and to develop a range of different personal qualities such as empathy, curiosity, compassion, or a democratic attitude.

While particular educational strategies might "work" in relation to one of these domains or with regard to one particular outcome, it is unlikely that such a strategy will also "work" in relation to other domains. The multidimensional nature of educational purpose (see Biesta, 2009), thus, already creates a problem with the idea that good teaching is simply a question of implementing evidence about "what works." Judgment is needed not only to determine what education needs to work *for* but also to find a meaningful balance between the different domains in which education seeks to function, particularly with regard to the trade-offs when achieving results in one domain may go against achieving results in another.

Judgment is also needed because the means of education are not neutral with regard to the ends—which, in more everyday language, refers to the fact that students not only learn from *what* we teach them but also from *how* we teach and approach them. Even if research were able to provide strong evidence that a particular way of doing may bring about particular effects, there is still the question whether this way of doing is educationally desirable. There may well be conclusive evidence that corporal punishment is the most effective way to modify someone's behavior, yet we may still decide not to act on this evidence because we do not want to teach our students that corporal punishment is ever justifiable.

The Limits of the Medical-Agricultural Model

A second problem with the idea of evidence-based education has to do with the fact that, at least in its "what works" form, it takes its conception of research—and by implication also its conception of education—from the fields of medicine and agriculture. Whereas randomized controlled trials might make sense in such domains—although even there, questions about what interventions and treatments are supposed to work *for* is a relevant question—simply transplanting such an approach to the field of education is not without problems. The main problem has to do with the fact that the fields of medicine and agriculture deal with physical processes of push and pull, whereas education is fundamentally a social process of communication, meaning, and interpretation. This also shows why it is a mistake to think of teaching as an intervention or treatment; the "recipients" of our educational efforts are not random objects that we intervene on but human subjects in their own right who, as students, have to make sense of what their teachers say and do. It is therefore only in cases where we would conceive of education as the external modification of behavior that the medical-agricultural model might make some sense. Yet most educators would see that as a case of indoctrination rather than of education, precisely because it conceives of students as objects of our interventions and control rather than as human subjects on their way to independent thought and responsible action.

What Kind of Evidence?

A final point has to do with the idea of evidence itself and, more generally, with the question what kinds of knowledge might be of benefit to educational practice. In the research and policy literature, the emphasis is exclusively on technical knowledge, that is, knowledge about relationships between particular actions and the consequences of those actions. While such knowledge can be useful in guiding educational actions, even then it is important to acknowledge that any knowledge we gain about relationships between actions and consequences can at most provide us with possibilities—it can tell us what has worked in the past under specific conditions and in relation to particular individuals or groups—but not with certainty about what will work in the future. Added to this is the fact that educational research and scholarship not only generate insights in relationships between actions and consequences but also provide different interpretations and understandings of educational phenomena. While such knowledge does not provide us with a "base" for educational action, it can nonetheless be highly useful for educators as it helps them see their practice in new and different ways. This can contribute both to understanding particular problems or issues in a new light—think, for example, how sociological research has deepened our understanding of the ways in which education reproduces social inequality—and to new and different ways of working. To suggest that research should provide only technical knowledge and should operate only through randomized controlled trials thus takes a very narrow view of the actual contribution research and scholarship can make to educational policy and practice.

Conclusion

While, at first sight, it may sound obvious that educational policy and practice should be based on scientific evidence about "what works," a closer inspection indicates a far more limited role for evidence in education than what proponents of evidence-based education often seem to be after.

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See also Accountability and Standards-Based Reform; Educational Research, Critiques of; Experimental and Quasi-Experimental Designs for Research: Campbell and Stanley

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Evolution and Educational Psychology

When psychology began to develop as an academic field in the late 19th century, evolutionary ideas were much in vogue. As a result, virtually all of the first generation of American psychologists, like many elsewhere, adopted an evolutionary approach to the field. An evolutionary conception of mind led William James (1890/1950) to argue that consciousness "exists" (as a function, not a thing); it had practical, adaptive value:

> Man, we now have reason to believe, has been evolved from infra-human ancestors, in whom pure reason hardly existed, if at all, and whose mind, so far as it can have had any function, would appear to have been an organ for adapting their movements to the impressions received from the environment, so as to escape the better from destruction. Consciousness would thus seem in the first instance to be nothing but a sort of super-added biological perfection—useless unless it prompted to useful conduct, and inexplicable apart from that consideration. (pp. 23–24)

James's student, G. Stanley Hall, influenced by Charles Darwin and by Ernst Haeckel's notion that "ontogeny recapitulates phylogeny" (individual, including embryonic, development retraces the evolutionary development of the species), helped found the child study movement and the field of developmental psychology. John Dewey, one of Hall's students, adopted a neo-Hegelian approach to psychology, which focused on cultural rather than biological evolution, altering his interpretation in a more naturalistic (Darwinian) direction after reading James's *Principles of Psychology* (James, 1890/1950). James Mark Baldwin also adopted an evolutionary approach when considering the functional selection of a child's behavioral repertoire within an evolving sociocultural context. Baldwin, in turn, influenced Lev Vygotsky, Alexander Luria, and Jean Piaget.

Evolutionary Philosophy

Evolutionary ideas were in some cases generalized into overall philosophies, or philosophical approaches, in which everything was considered from an evolutionary standpoint. Herbert Spencer applied his notion that things evolve from simple homogeneity to complex heterogeneity to virtually every subject. Charles S. Peirce developed a much more rigorous evolutionary philosophy involving the interplay of chance, continuity, and the statistical tendency to form law-like "habits." Dewey and George Herbert Mead drew on Peirce, developing their own evolutionary philosophies. Among the things that evolved were acts themselves, which were viewed as temporal developments rather than given entities.

One of the attractions of an evolutionary approach was that it promised to help resolve difficulties created by Cartesian dualism. Descartes's conception of mind and body as categorically different entities, bodies being physical machines and souls or minds metaphysical entities capable of abstract reason, made the body unintelligent and the mind disembodied. It also created insuperable difficulties in understanding how two completely different kinds of things could interact in the individual. An evolutionary approach promised to restore continuity by viewing human mental functioning as a refinement of simpler processes evident in social animals or even simpler organisms or natural processes and the body as more end directed and, thus, implicitly more intelligent than a machine. In effect, reason became more practical and practice more reasonable when viewed from an evolutionary perspective.

Growth of Differential, Comparative, and Developmental Psychology

As Boring (1929) notes, three subfields of psychology important for education developed out of these initial concerns. Differential psychology—the psychology of individual differences—emerged from

the concern of Darwin's cousin, Francis Galton, for hereditary differences in "genius." This led to the eugenics movement, IQ (intelligent quotient) testing, and trait psychology. Comparative psychology, concerned initially with studying the mental functioning of different species in laboratory experiments, turned into behavioristic psychology, which focused on learning processes common to rats, pigeons, and humans. Concern for individual ontogeny in an evolving sociocultural context turned into developmental psychology, which tended to focus on universal stages of human development. These three emphases constituted most of educational psychology up to the late 1950s, with the notable exception of clinical or "abnormal" psychology, which was considered beyond the pale scientifically.

Romantic, Survival of the Fittest, and Interactional Conceptions of Evolution

Different conceptions of evolution were also in play at the turn of the 20th century, as are different versions today. In what might be called the "Romantic" conception of evolution, the individual was seen as the source of major change, as in the neo-Hegelian emphasis on the importance of "world-historical" individuals, like Napoleon or biological interest in "hopeful monsters," uniquely different organisms that, if viable, could take evolution in a new direction. A more conservative interpretation viewed change as coming largely from the outside, as individuals are forced to adapt to environmental contingencies over which they have little control. Spencer and William Graham Sumner were among the proponents of such a survival-of-the-fittest attitude in social life, commonly referred to as Social Darwinism. Finally, an "interactional" conception viewed organisms as affecting their environments and as being affected in return, the course of interaction being contingent in each particular case. Dewey, with his emphasis on the interplay of "doing" and "undergoing" and intelligent experimentation to learn how things work, was an important proponent of this approach, as was Lester Frank Ward in sociology.

Subsequent Interpretation

While all three of these approaches were present in late-19th- and early-20th-century debates, the approaches that survived in mainstream psychology, represented by the subfields discussed earlier, can be viewed as the fruits of the more conservative adaptationist interpretation. This may have been, in part, because new developments in physics made it, rather than biology, the dominant field to emulate, giving psychology its often discussed "physics envy." Logical positivism also contributed in emphasizing the verification of scientific laws by inference-free observations. The resulting focus on behavior measured in terms of external norms (e.g., those embodied in IQ tests) on contingencies of reinforcement, or on universal stages of development, made the development of a narrow version of "scientific" psychology easier but truncated psychological understanding by overlooking the ability of organisms in natural settings to alter the contingencies facing them or leave an environment for another they preferred (McDermott & Hood, 1982; Newman, Griffin, & Cole, 1989).

With the coming of the cognitive revolution in the late 1950s, the computer became the new model for the mind, and computer science the new field for psychology to emulate. With more going on "inside" the mind, even though it was conceived as a complex machine, it became less possible or desirable to simply read off performance scores based on external norms. One had to understand inner rules and processes and not just the eventual outcome. This created some evolutionary and developmental difficulties for those adopting a classical symbol processing approach to mind, based on the computer, like Allen Newell and Herbert A. Simon, because to get such a process going, one had to have the basic components in place at the beginning. In effect, one had to have the equivalent of a computer and some basic software already in place for "thinking" to begin. This tended to force cognitive psychologists into forms of nativism, as in Noam Chomsky's argument that human beings are born with an innate "language acquisition device" enabling them to learn syntax, Jerry Fodor's argument in favor of innate mental modules, or Howard Gardner's (1985) claim that each of his multiple intelligences has a given biological substrate. Such accounts tend to be evolutionarily unsatisfactory because they seek to explain the development of mind by asserting that its essentials were already there in the first place.

The discovery of DNA (deoxyribonucleic acid) in 1953 would lead to a renewal of interest in biological ideas; biology has again become a field for psychology to emulate. Evolutionary ideas are also back in vogue, and different conceptions again are in tension. One of the differences between the present debate and that of the first half of the 20th

century is that the individual is less likely to be considered the basic unit of analysis. Developments in cellular and molecular biology have made it tempting to begin at a lower level, such as the neural or genetic level. At the same time, as Bredo (2000) notes, the development of linguistics and the sociocultural sciences, as well as linguistic and social philosophy, make it also tempting to begin at a higher, sociocultural level. (In a sense, the situation can be described as a clash between genetic or biological determinism on the one hand and cultural constructivism on the other.)

The emerging field of evolutionary psychology adopts the first strategy, attempting to explain widely adopted forms of social behavior in terms of lower-level genetic adaptations. Some social behavior, such as altruism, may appear difficult to understand from an individual point of view, for example, because it is apparently irrational; however, as Richard Dawkins points out, it can be understood as rational from a genetic point of view if the survival of sufficient numbers of near kin bearing one's genes is ensured by such behavior. This suggests that cooperative social behavior may be more explicable on genetic rather than individual grounds. Such considerations led E. O. Wilson to argue that human nature consists of predispositions to behave in certain ways as a result of epigenetic rules "built into the brain in the form of a learning bias" (Wilson, 1996, p. 18), leading people to tend to learn certain forms of behavior more readily. This argument is used to support both the notion that human nature is universal and the conservative political point that relatively universal forms of social life, such as traditional gender roles and social hierarchies, persist because they made, and possibly continue to make, adaptive evolutionary sense.

A directly opposing approach argues that individual minds and personalities are products of different cultures and social positions, each of which is evolutionarily unique (like the "hopeful monsters" mentioned earlier). Those from different cultures, or members of different social categories within a culture, such as men and women, are believed to develop categorically different ways of thinking as a result of differing cultural norms and structural contingencies (Maltz & Borker, 1982). Even organic characteristics, such as bone development and musculature, not to speak of literal inscriptions, such as tattoos, may be socially "inscribed" on the person. Thus, rather than one universal form of human nature, or one universal form of reason, there are many essentially different forms of human nature and many essentially different "mentalities." Individual personalities and mentalities are, then, seen as the product of a person's location at the intersection of the groups and categories to which he or she belongs. The obvious political point is that such essential differences should not be ignored or marginalized by assuming that there is only one universal human nature or one universal form of mind or reason.

An alternative to both of these views is, again, some form of interactionism. Unique, multiply potentiated individuals grow up in unique, multiply potentiated social environments, each interacting with the other to create a life trajectory or set of life trajectories. Humans are indeed a distinct species, as emphasized by those arguing for a universal human nature, but what they share most fully are early phases of development, such as sensorimotor skills, that are very similar to the early accomplishments of other species (Scarr, 1983). Specialized adult accomplishments, which should *also* be considered part of "human nature," are among the characteristics that are least widely shared. Something similar can be said about human societies, some of whose ancient cultural elements are shared by virtually all (e.g., cooking with fire), while many newer inventions are not so widely shared. As a result, individuals and societies are neither essentially identical nor essentially different, since their old and new aspects tend to overlap with others to differing degrees.

Conclusion

Rather than arguing about whether individuals or societies are essentially the same or different, then, we could be concerned with how particular individuals may be helped to thrive and develop as a result of their experiences in forms of social life that are themselves being helped to thrive and develop. As Daniel Keating and colleagues put it, we might be concerned with the way "developmental health and the wealth of nations" are related to one another (Keating & Hertzman, 1999). Approached in this way, an evolutionary approach to psychology takes us back to the basic task of education without presupposing a correct answer before one begins.

Eric Bredo

See also Behaviorism; Dewey, John; James, William; Mead, George Herbert; Multiple Intelligences: Howard Gardner; Piaget, Jean; Recapitulation, Theory of; Social Darwinism; Spectator Theory of Knowledge; Spencer, Herbert

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Existentialism

See Beauvoir, Simone de; Sartre, Jean-Paul

Experiential Learning

It is hard to imagine an effective approach to learning that does not involve the learner in some kind of experience. The idea that knowledge, understanding, or skills could be passively absorbed is the antithesis of good teaching. This is especially true in modern approaches to education, where the goal is to actively engage students and help them to construct learning. Learners are not empty buckets or blank slates, and unless new ideas and new experiences link to previous experience, these ideas and experiences may lack meaning and context. However, if all learning is experiential, the use of the adjective "experiential" to distinguish one kind of learning from another is puzzling. The purpose of this entry is to explore this quandary and to identify the defining characteristics and contentious issues within experiential learning theory and practice.

The philosophy, principles, and practices of experiential learning permeate many diverse approaches to both formal and informal education. The development of philosophical thought about the importance of experience in learning settings has been linked to the Greek philosophers, but it is likely that the earliest humans used a version of "trial-and-error learning," especially as their capacities for reflection increased as cognitive functioning developed. In more recent times, the principles and philosophies of experiential learning underpin pedagogical approaches such as problem-based learning, inquiry-based learning, service learning, and adult education.

Although the terms *experiential learning* and *experiential education* are sometimes used interchangeably, this can be troublesome and the distinction is worth noting. On its website, the Association of Experiential Education (2013) defines experiential education as

> a philosophy that informs many methodologies in which educators purposefully engage with learners in direct experience and focused reflection in order to increase knowledge, develop skills, clarify values, and develop people's capacity to contribute to their communities.

According to this definition, experiential education uses the principles of experiential learning but what distinguishes experiential education is the transactive process between the educator and the student. Clearly, it is possible to engage in experiential learning without the presence or influence of an educator at all. This entry will focus mainly on experiential learning in educational settings and, hence, on the theory and practice of experiential education.

To better understand the educational potential of experiential education, it may help identify some of the defining characteristics of experiential learning. In doing so, I will draw on the foundational work of several theorists, including the well-known educational theorists John Dewey, Kurt Lewin, Paulo Freire, and David Kolb. The work of several recent authors will then be used to critique some of these original ideas and consider the place that experiential education may have in the future. First though, a brief look at the evolution of experiential learning is needed.

Dewey is often described as the father of experiential education, and he summarized his views in his book published in 1938 titled *Experience and Education*. Dewey was critical of traditional approaches to education that were static, and he argued that the educator's role is to provide opportunities to engage in purposive experiences, to help learners reflect on those experiences, and to help them build on past experiences, preconceptions, and knowledge. For Dewey, learning experiences needed to be enjoyable and interesting enough to keep the learner engaged. In his view, not all experiences were necessarily educative; some were potentially aimless or neutral activities, and some were even miseducative in that they diminished learning in the future. Dewey wrote that an educative experience should arouse curiosity, strengthen initiative, and set up desires and purposes that carry the individual over "dead places in the future." In sum, "every experience is a moving force. Its value can be judged only on the ground of what it moves toward and into" (Dewey, 1938/1963, p. 38). Experiential learning was not just serendipitous learning for Dewey, he held that educators should use careful planning, develop extensive background knowledge, and be ready to teach subject matter when required. Being student centered did not mean that the educator relinquished his or her authority or responsibility to guide. A final point about Dewey's approach concerns the tension he noted between the individual freedoms of learners and their responsibilities as active members of democratic communities. For Dewey, neither aspect of this tension was optional.

Experiential education also finds its roots in the work of Kurt Hahn (the founder of Outward Bound) and Freire, because these educators were focused on developing the capacity of individuals to take action for participation in a democratic society. Freire, a Brazilian educator from the critical tradition, gave primary emphasis to praxis—the dialectal process of reflection informed by action and action informed by reflection. Inspired by the German American psychologist Lewin, Kolb adapted a Deweyian model to conceptualize experiential learning as a staged, cyclical process (see Figure 1), which ran as follows: A person engages in a *concrete experience*, and then reflects on this (*reflection*), makes generalizations

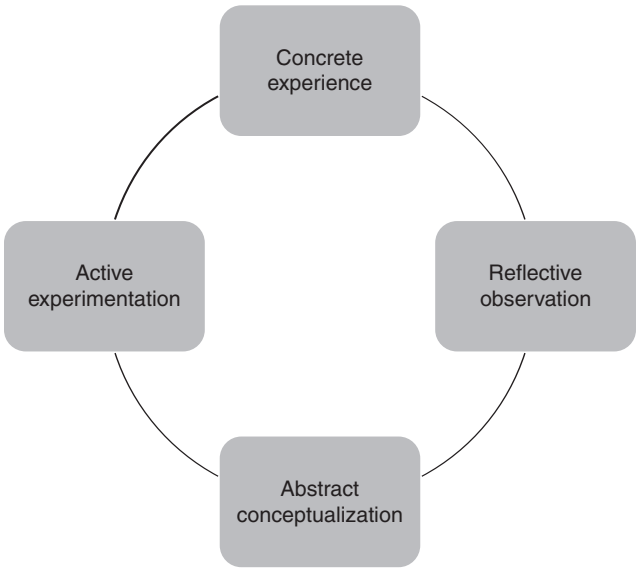

Figure 1 A Simplified Version of David Kolb's Experiential Learning Cycle

Source: Adapted from Kolb (1984).

from the reflections (*abstract conceptualizations*), and then thinks about how he or she might act differently next time (*active experimentation*), and applies these ideas to the next concrete experience.

Since the development of Kolb's model, many other authors have used different labels to describe the steps or introduced some additional steps, but the basic principles have remained unchanged. Kolb also used the stages in his model to describe different learning styles and ways of understanding or knowing things, but these are not pertinent to the discussion of experiential learning here. In more recent times, there has been strong criticism of the efficacy of such a cyclical model to adequately conceptualize the experiential learning process that Dewey had outlined. This along with other critiques will now be discussed.

Tara Fenwick sought to disrupt conventional notions of experiential learning in her book *Learning Through Experience: Troubling Orthodoxies and Intersecting Questions*, which was written for the adult education field. She encouraged more discussion about alternate conceptions by presenting critiques from constructivist, psychoanalytic, situative, critical cultural, and enactivist perspectives; and she explained how these different (and sometimes conflicting) perspectives provide a balanced view of the strengths and weaknesses of experiential learning. One of the key issues she raised was that some theorists and practitioners create a reflection–action (or mind–body and individual–context) binary. In practice, it is relatively easy for facilitators to avoid this binary by framing doing and reflecting as simultaneous, or overlapping, processes. Donald Schon's idea of reflection-in-action was a good example of how professionals may do this.

Fenwick also argued that traditional constructivist notions of experiential learning are simplistic and reductionist because they do not explain the role of desire in learning; they reinforce a conduit (input–output) understanding of learning; they falsely presume that subjects are divided from their environment and their experiences; they predominantly emphasize conscious, rational processes; and they assume a stable, unitary self. Fenwick encouraged practitioners to think more deeply about the processes involved in experiential learning.

More recently, Jayson Seaman has argued that stepwise experiential learning models inadequately explain the holistic nature of learning processes that are central to learning from experience and that they lack scientific and philosophical foundations. He suggested that an overreliance on cyclical experiential learning models may actually be influencing research and practice in unhelpful ways. The challenge is to make sure we do not limit our theorizing or repress both experiencing and learning processes.

Experiential learning has the potential to inform current and future pedagogies, but it is recommended that practitioners have a robust understanding of the theory and philosophy underpinning such practice to optimize learning outcomes and avoid experiences that may be miseducative. Finally, it is important to note that the teaching approaches used in experiential education are fundamentally different from those that may be suitable for traditional educational approaches. Consistent with the principles outlined by Dewey, a more facilitative teaching approach is required to allow students to become critical thinking, self-motivated, problem-solving individuals who participate actively in their communities.

Glyn Thomas

See also Dewey, John; Discovery Learning: Pros and Cons; Freire, Paulo: *Pedagogy of the Oppressed* and Critical Pedagogy; Problem-Based Learning; Project Method; Radical Constructivism: Ernst von Glasersfeld; Spectator Theory of Knowledge

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Experimental and Quasi-Experimental Designs for Research: Campbell and Stanley

The American psychologists Donald T. Campbell (1916–1996) and Julian C. Stanley (1918–2005) are widely considered pioneers in the study of educational research designs. Their work individually, together, and with colleagues has profoundly influenced the field of experimentation not only in education but also in social science research more broadly. In their 1963 monograph, *Experimental and Quasi-Experimental Designs for Generalized Causal Inference*, Campbell and Stanley provided a detailed specification of the conditions under which research studies could validly yield causal conclusions. Often referred to simply as "Campbell and Stanley," this brief but classic work stands even today as the most oft-cited source for educational research studies that employ some form of experimental design. This entry describes the monograph's methodological contribution and the Campbell and Stanley framework for research design.

Threats to Validity

Campbell and Stanley were primarily concerned with the degree to which a research study could be designed so that it would ultimately warrant the making of *valid* inferences—that is, inferences that could actually be supported by the evidence collected during the study. Campbell had previously identified two forms of such validity: (1) *internal validity*—the degree to which the outcomes observed subsequent to delivery of the intervention or treatment in fact did occur as a result of the intervention in the experiment, rather than as a result of other factors not systematically examined as part of the study; and (2) *external validity*—the degree to which the outcomes observed in the experiment at hand could generalize to individuals, settings, treatments, and measures other than those directly observed or sampled in the study.

Campbell and Stanley also identified several conditions that could reduce the likelihood that an experiment would support valid inferences—in their words, conditions that would threaten validity. These threats to validity, eight of which pertained to internal validity and four of which pertained to external validity, have provided a means for countless investigators to reduce the likelihood of carrying out the hard work of research studies only to find out afterward that evidence fails to support valid inferences.

Researchers use Campbell and Stanley's account of these threats to validity to make decisions during the research design stage to anticipate problems that could ultimately weaken the inferences that they could make; in other words, an experimental study could be designed to have features that would minimize threats that, given the prevailing circumstances, Campbell and Stanley had said were likely to occur. For example, Campbell and Stanley identify the effects of "History"—"the specific events occurring between the first and second measurement in addition to the experimental variable"—as one potential threat to internal validity (Campbell & Stanley, 1963, p. 5).

Consider an experiment crafted soon after the release of tablet (e.g., iPad) computers, to test the hypothesis that they will be an effective aid in second-language acquisition. Members of the group being studied are given iPads to use at school. But if iPads become very popular very quickly during the period of several months that the study is running, in many cases, the students will live in homes that purchase them; and as a result, the effect of the iPad use in class may be influenced by their access to the tablet computer at home, which the study is not designed to assess. This would represent a "history" threat—gains or losses in improved language performance might be attributed invalidly to the experimental treatment being a success or a failure whereas the results also are due to the events—the history of tablet computer use—taking place in the surrounding environment.

Campbell and Stanley laid out their full list of threats to validity as follows:

Threats to Internal Validity

1. *History*, the specific events occurring between the first and second measurement in addition to the experimental variable
2. *Maturation*, processes within the respondents operating as a function of the passage of time per se (not specific to the particular events), including growing older, growing hungrier, growing more tired, and so on
3. *Testing*, the effects of taking a test on the scores of a second testing

4. *Instrumentation*, in which changes in the calibration of a measuring instrument or changes in the observers or scorers used may produce changes in the obtained measurements
5. *Statistical regression*, operating where groups have been selected on the basis of their extreme scores
6. Biases resulting in differential *selection* of respondents for the comparison groups
7. *Experimental mortality*, or differential loss of respondents from the comparison groups
8. *Selection–maturation interaction*, and so on, which in certain of the multiple-group quasi-experimental designs . . . is confounded with, that is, might be mistaken for, the effect of the experimental variable

Threats to External Validity

9. The *reactive or interaction effect of testing*, in which a pretest might increase or decrease the respondent's sensitivity or responsiveness to the experimental variable and thus make the results obtained for a pretested population unrepresentative of the effects of the experimental variable for the unpretested universe from which the experimental respondents were selected
10. The interaction effects of selection biases and the experimental variable
11. *Reactive effects of experimental arrangements*, which would preclude generalization about the effect of the experimental variable on persons being exposed to it in nonexperimental settings
12. *Multiple-treatment interference*, likely to occur whenever multiple treatments are applied to the same respondents, because the effects of prior treatments are not usually erasable

Strategies for Mitigating Threats to Validity

Campbell and Stanley advocated three major strategies for mitigating validity threats. The first of these is use of a *control group*—an additional group selected by random assignment at the same time that the experimental group is formed; the control is treated in a similar way as possible to the treatment group except that it does not receive the treatment. (Use of a control group would have helped researchers deal with the "history threat to validity" described in the iPad example; students in both the treatment and control groups would be influenced by the historical events, allowing the researchers to take this effect into account when assessing their results, for only the experimental group used the iPads in second-language class.)

The second strategy was *randomization*, or random assignment of subjects to treatment/control groups. Random assignment leaves to chance the likelihood of systematic differences between groups (such as would constitute a *selection* threat). Finally, Campbell and Stanley also advocated use of a *pretest*, a measure of the target outcome that is administered before any experimental treatments have been carried out. A pretest helps determine whether groups were systematically different prior to the beginning of the study, which is especially important when randomization is not possible as part of a study. Another benefit of pretesting is the acquisition of knowledge about each subject prior to the study; when there is subject attrition prior to completion of the study, a pretest can give insight into the presence of an experimental mortality threat, for example.

Designs for Social Science Research

Campbell and Stanley were champions of the kinds of experiments first laid out in the 1920s and 1930s by Ronald Fisher. These experimental methods called for treatment conditions that were controlled enough to enable isolation of the effects of any individual treatment variable. They recognized, however, that educational research contexts often prohibit the sort of tight experimental control and manipulation of the methods described by Fisher. As such, though "true" experiments remained their first choice, they provided a typology of educational research studies that varied in the degree to which they would control for threats to validity. The four types of research designs identified by Campbell and Stanley are as follows:

- *Preexperimental designs*, which do not utilize adequate control groups and/or do not randomly assign subjects to treatment groups
- *True experimental designs*, which include at least one control group and employ random assignment of subjects to groups
- *Quasi-experimental designs*, which do not include random assignment but do employ an appropriate control group and gather evidence on the equivalence of that control group to the experimental group (e.g., through pretest measures)

- *Ex-post facto designs*, which explore relationships between variables but do not involve any degree of experimental manipulation

Across their four types of research designs, Campbell and Stanley also specified 16 prototypical research designs that varied in the use of the three strategies for mitigating validity threats described above (e.g., the "Pretest–Posttest Control Group" true experimental design).

Impact of Campbell and Stanley

For more than half a century, Campbell and Stanley's work has been helping researchers optimize their studies to mitigate threats to validity to the greatest extent possible, even in cases for which random assignment to equivalent groups is not feasible. Their legacy includes spawning a whole new field of modern techniques for causal inference using quasi-experimental designs. Their original work (updated in 2002 in a volume, the lead author of which was William Shadish), remains the definitive source for students and scholars of design of educational research studies. It needs to be noted, however, that during this same time period, there has been growing interest among some in the research community in the determination of causes using nonexperimental, qualitative methods, such as observational techniques. One tongue-in-the-cheek paper in a medical research journal pointed out that—despite the lack of experimental studies involving random assignment to the treatment and control groups—we know that parachutes are causally effective in preventing injury in individuals who are "gravitationally challenged" (Smith & Pell, 2003)!

Edward W. Wiley

See also Causation; Educational Research, Critiques of; Evaluation of Educational and Social Programs: Models; Evidence-Based Policy and Practice; Qualitative Versus Quantitative Methods and Beyond; Validity, Types of

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Faculty Psychology and Mental Discipline

Faculty psychology is the name given to an array of related theories about how the mind functions. These theories emerged in the Enlightenment philosophy of the 17th and 18th centuries and remained prevalent in theological and philosophical discourse and also educational practice throughout the 19th century. Theories of mental faculties sought to categorize the functions of mind and explain how these faculties were related to each other and how mental faculties made sense of the outside world. It is important to note, however, that the term *faculty psychology* only came into common usage in the early 20th century as scholars in the nascent discipline of psychology critiqued the theories of mind previously set forth by natural philosophers. This entry discusses how the terms *faculty* and *mental discipline* were used to describe how the mind works, how understanding occurs, and how these terms correspond to current ideas in psychology about mental functions.

In the 17th century, a faculty was understood as a mental ability or a mental power. John Locke's (1694) *Essay Concerning Human Understanding* was the most thorough discussion of mental faculties of that era. The question Locke was trying to answer was how we come to understand the world around us. While there are objects in the world such as chairs or horses, the mind possesses ideas about these objects. How do we form these ideas? Locke's approach to this question was to consider the faculties required to form ideas. According to Locke, to form a simple idea about an observed object, the mind utilized a number of faculties. These faculties included a faculty of perception that formed an awareness of the impression received by the senses, a faculty of retention and memory that connected the new perception to earlier related perceptions, and a faculty of judgment that discerned diverse impressions of an object (say, from different angles or under different light conditions) and connected these diverse impressions with the same idea of what that object was.

Over the course of the 17th, 18th, and 19th centuries, the categorization of faculties varied among different scholars. However, certain assumptions about mental faculties remained prevalent. The first was that, through reasoning and self-reflection, it was possible to categorize what these faculties were. The second was that mental faculties formed and organized ideas. The third was that the mind was an inner entity separated from the outside world. The faculties functioned to bridge the gap between mind and world, although it should be noted that explanations as to how this gap was bridged differed among philosophers (e.g., David Hume, Locke, and Immanuel Kant). The fourth was a presupposition that people were capable of reflecting on their own ideas. This presupposition precluded the need to explain how people come to self-awareness and self-reflection in the first place.

Many formulations of mental faculties, including those of Locke and Jean-Jacques Rousseau, relied on empiricism. Empiricist formulations held that

mental faculties formed ideas solely through impressions provided by our five senses along with the impressions we have of our own thinking processes. Philosophers such as Christian Wolff created a distinction between empirical psychology and rational psychology. While empirical psychology depended on impressions, rational psychology provided the reasoned principles through which different ideas could be related to each other. According to Wolff, the faculty of reason nonetheless depended on premises and axioms derived from experience. However, not all discussions of mental faculties assumed empiricism. Kant argued that some forms of knowledge, such as knowledge of adding simple numbers, can be known without prior experience.

By the 19th century, the categorization of mental abilities in terms of faculties pervaded Christian theological discourse. As formal schooling became more widespread, these conceptions permeated educational theorizing as well. Throughout the 19th century, trainee teachers were instructed on how students should apply their mental faculties to make sense of the world. Students were expected to use their mental faculties to reflect on and take control of their own thinking processes and to connect ideas through rational principles. As many leading educators of the 19th century emphasized, learning was not a case of memorizing facts, but rather of understanding the principles through which related ideas were connected.

The learning process involved construing principles through which ideas could be generalized and applied. Students required effortful attention to derive principles by connecting particular words, mathematical operations, or features of objects. The attention and effort required to make use of principles were referred to as *mental discipline*. A paradigmatic example of mental discipline was learning arithmetic. In particular, arithmetic exercises were believed to demand strict mental discipline from the student as principled arithmetical operations were applied to particular numbers. Mental discipline, however, was not restricted to arithmetic. Just as principles pervaded all branches of knowledge, mental discipline was requisite in the learning of all branches (the learning of a classical language such as Latin was another paradigmatic case). By the middle of the 19th century, student recitation was the main way to practice mental discipline. Recitation did not involve the memorization of facts and texts or learning by rote but rather demanded that the student utilize his or her mental discipline to apply principled reasoning to a particular subject in the school curriculum. Some classroom practices were based on the further assumption that the faculties could be strengthened by use, in a manner analogous to the way in which one's muscles could be developed through exercise.

With the emergence of psychology as a formal discipline in the late 19th century, many of the scientific experiments in this nascent discipline were based on assumptions of mental faculties. Some studies of mental ability, for example, studied children's ability to recognize objects and connect ideas with objects. At the same time, establishing psychology as a scientific discipline involved developing new theories of mind and demonstrating how these theories were superior to preceding theories. With the rise of behaviorism in the early 20th century, faculty psychology was dismissed—it was argued that it provided nothing more than circular explanations; for example, the faculty of judgment only can be understood as the ability to judge.

Over the past century, there have been no substantive efforts to revive faculty psychology. However, some scholars have argued that faculty psychology was not so much refuted as integrated into the discipline of psychology where functions such as perception, memory, and attention are still treated as distinct mental functions. Moreover, a central assumption inherited from faculty psychology remains prevalent in many areas of psychology; namely, that the mind resides within the body and that psychology must explain how this inner mind makes sense of the external world.

Jake E. Stone

See also Behaviorism; Kant, Immanuel; Locke, John; Rousseau, Jean-Jacques; Transfer of Learning

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Feminist Epistemology

Feminist epistemology refers to a set of feminist theories within epistemology. Equally, it refers to a set of epistemologies within feminist theory. Both sets of theories are marked by complex and overlapping areas of agreement and disagreement. So there is no single "feminist epistemology"; there are a number of them. The entry begins by explaining what is included in the set of feminist epistemologies. It goes on to trace the emergence and development of different approaches. Then it outlines the main themes in current thinking in the area. Finally, it relates them to educational research, policy, and practice.

Feminists seek to demonstrate and dismantle the invisibility, oppression, and subordination of women; epistemology is the study of knowledge. Feminist epistemology is at the intersection of these two fields of endeavor. The orthodox Anglo-American position is that epistemology is the theory of knowledge, where knowledge is taken to be justified true belief. More generally, epistemology explores the relation between knowledge, belief, and truth. In the past 50 years, there have been sustained criticisms of this orientation by feminists and others. They broaden the scope of epistemology to include the study of what is known, what can be known, how it can be known, the knowing subject in an epistemic community, and how he/she/it contributes to the discovery, construction, or maintenance of knowledge. Significantly, these broader issues pertain to physics as much as to the social sciences and humanities (Barad, 1996).

The suggestion that epistemology can—or should—be feminist has not been universally welcomed by philosophers and theorists. Some remain outraged at the idea that feminism and gender have anything to do with epistemology, or indeed with philosophy, taking the view that these subjects address such abstract and general questions that politically partial forms of inquiry are irrelevant to them (see, e.g., Longino & Lennon, 1997; Martin, 1994, chap. 6). With reference to education theory, Siegel (2011) argues that if *epistemological diversity* refers, nonnormatively, to methodological diversity and diversity in belief within the research community, it is referring to an acceptable pluralism but is not an epistemological position; however, if it is taken to imply relativism (wherein truth is relative to a framework), it is not epistemically viable and should be rejected.

From a very different philosophical tradition, those working within a tradition critical of humanism would argue that any move to constructing an epistemology, including a feminist one, is misguided, although knowing and knowledge are discussed extensively in those critical traditions.

The relationship of feminist epistemology to standard epistemology is one of both critique and construct. It includes critiques of epistemologies that obscure the salience of gender and in doing so contribute to gender injustice; but it also constructs epistemologies that can reveal the operations of gender. Critiques of traditional gender-neutral epistemologies point up the biases and inaccuracies in knowledge that have arisen from implicit assumptions that the gender of the knowing subject and/or the subject of knowledge is irrelevant in the discovery or construction of knowledge. Moving on from critique, feminist philosophers construct epistemologies that take gender into account. They argue that feminist epistemology is productive of better knowledge that will not disadvantage women and girls.

For an epistemology to be feminist, it is both necessary and sufficient that it be capable of revealing gender *and* that it be normative with respect to gender injustice. Feminist epistemology aims to overcome injustice and so aims for better knowledge. Thus, it is not relativist, even though much feminist theory and philosophy shares in the current widespread flight from transcendence (there are procedures for rational assessment of knowledge claims). Moreover, as Longino and Lennon (1997) argue, feminist epistemologies are not necessarily (or even often) exclusively feminist—an epistemology that reveals that the operations of gender may equally reveal the operations of other material, social, or cultural formations such as social class, race, religion, culture, disability, and sexuality.

The Emergence and Development of Feminist Epistemology

Feminist epistemologies emerged during the early 1980s during a period of intense development and contestation in feminist theorizing. The different approaches developed in conversation with each other. Therefore, although they are analytically separable, they have areas of agreement as well as disagreement. A significant influence was the simultaneous emergence of political movements related to "race," ethnicity, social class, and sexuality.

Empiricism, Standpoints, and Situated Knowledge

One strand emerged from a critique of neutral, realist empiricism demonstrating that apparently neutral

empirical studies were biased, because, for example, they did not include females or assumed the universality of male experience. As a result, educational theory and practice advantaged boys and men rather than girls and women. The critique of neutrality evolved into the construction of standpoint epistemology, which held that since men as a more powerful social group understand less of the world than the less powerful social group of women, the latter perspective gives a richer, more adequate account of the world. This argument applies to other social groups as well, such as those marked by class, race, and ethnicity. So a number of different standpoint epistemologies were developed, drawing on Marxism, psychoanalysis, and postmodernism (Harding, 1986).

Other developments moved away from the notion of standpoint altogether. Rejecting the dualistic and hierarchical basis of standpoints, Haraway (1991) proposed the notion of situated knowledge, which requires engaging with "many kinds of heterogeneous accounts of the world" (p. 199). Drawing on Michel Foucault to theorize Black feminism, Collins (1991) used the term *subjugated knowledges*. Stanley has used the same term in her critiques of standpoint epistemology, in which she proposed an epistemology of the material that takes into account differences in the experience of material reality, highlighting circumstances, especially those productive of silencing and of subjugated knowledge. Narrative and autobiography/biography have been significant in all of these theories; they blur the subject and object distinctions, closely connecting the knower and the known. Code (1991) argued that the role of the social illuminates the inescapability of responsibility in epistemology. Some theorists continued to emphasize the primacy of gender as a category. Belenky, Clinchy, Goldberger, and Tarule (1986) argued that there are ways of knowing that are specifically female, which have been neglected and disparaged. The argument has been widely criticized for its essentialism and because, it is argued, the phrase "ways of knowing" is misleading and refers to ontology and metaphysics rather than to epistemology. Code (1991) argued that gender is always "a determining ingredient" in how far women's knowledge is accepted as trustworthy and authoritative.

Reason and Rationality

A second strand of critique focused on reason and discussed ways in which its apparent neutrality hid its gendering. Lloyd (1984) not only traced changes in the concept of reason over the centuries but also noted that it has always been defined by excluding the feminine, from the Pythagorean table of opposites to Immanuel Kant, G. W. F. Hegel, and Jean-Paul Sartre. Irigaray (1985) noted the same binaries at work but argued against exclusionary models, drawing on psychoanalytic and phenomenological concepts of the imaginary to argue that rationality in Western thought is conceptualized as male. Le Doeuff (1989) examined the discourse of philosophy analyzing the "domain of the image" in the philosophical writing of Plato, René Descartes, Kant, Jean-Jacques Rousseau, and Arthur Schopenhauer, among others, to demonstrate the gendering of reason in their work.

Braidotti (1991) argued against the project of constructing a feminist epistemology. She argued that Western philosophy is so imbued with a particular conception of reason, exclusive of women, that feminist attempts to reconstruct it were attempting to do no more than reform orthodox epistemology. Appreciative of Irigaray's project of "jamming the theoretical machinery" through mimesis and deconstruction, Braidotti proposed approaching questions of knowledge through a radical, nomadic, Deleuzian approach to philosophy as creative and formative rather than analytic and reactive.

Influential Themes in Current Thinking in Feminist Epistemology

Current thinking in feminist epistemology is as energetic and various as it was in the 1970s and 1980s. It is likely that the field will continue to develop at a rapid pace; this section outlines the main themes, but it should be read not as definitive but as indicating areas for further exploration. These explorations will overlap with mainstream philosophy, especially in the fields such as social and virtue epistemologies, epistemologies of ignorance, epistemologies of resistance, actor network theory, and posthumanism.

Clear links to standpoint, situated, and subjugated knowledge can be seen in more recent developments. In some formulations, it can be seen as a specific form of social epistemology. Longino argues for an epistemology based in feminist theoretical virtues: novelty, ontological heterogeneity, mutuality of interaction, and diffusion of power, which she contrasts with traditional cognitive virtues (Longino & Lennon, 1997). In the same article, Lennon accepts this but adds the requirement to pay particular attention to marginalized knowledge in a process of "world traveling." Cavarero (2002) draws on Hannah Arendt in her proposal that an epistemology

of the unique and particular, constructed through listening to multiple histories and perspectives, is appropriate for the study of human plural interaction and contingency: the *bios politikos* rather than the *bios theoretikos*. In a related move, Code (2006) discusses the politics of epistemic location. Some problems of epistemic location are highlighted in the epistemologies of ignorance, theoretically explored by feminists and theorists from other social groups (Fricker, 2007; Tuana & Sullivan, 2006).

Feminist epistemologies include not only the political but also the ethical. There are clear links here to virtue epistemology. The role of ethics is particularly clear in the discussions of ignorance and "world traveling," which argue for epistemic responsibility on the part of an epistemic community and individual knowers. Ethics are also relevant in relation to testimonial injustice, which can occur when the knowledge claims by members of marginalized social groups are given little authority. Feminists also argue that hermeneutical injustice arises when power relations constrain women's ability to understand their own experience (Fricker, 2007). In general, feminist epistemologies abandon what they argue is the pretense of objective observation; instead, the affective is fully acknowledged in the relation between the knowing subject or epistemic community and the known.

Feminist epistemology is still seen as a mistaken project by some feminist philosophers who would say that a feminist epistemology is a contradiction in terms, at best a strategic move toward dismantling the whole notion (Code, 1991)—or even just irrelevant (Tronto, 1993). From a poststructuralist and postmodern perspective, the imbrication of knowledge and power means that the humanist project of epistemology needs to be abandoned altogether, not merely reformed. Gatens (2000), like Braidotti, argues for the continuing significance of keeping gender visible while continuing to be skeptical about epistemology and what they argue are its foundational dichotomies, such as nature/culture. Drawing on Baruch Spinoza and Gilles Deleuze, they take a posthumanist turn to discuss knowledge rather than a theory of knowledge. Posthumanism is also significant in the work of Code (2006) and Barad (1996).

Relevance to Educational Research, Policy, and Practice

Feminist epistemology is relevant to educational research, policy, and practice. Suggestions about how it is relevant depend on the particular epistemology (or epistemologies) that is (are) espoused. Many of these are not uniquely feminist in the sense defined earlier in this entry. Moreover, since the field is fast-moving, scholars will, no doubt, find specific areas where it is particularly significant. Or, since there is plenty of controversy about whether any version (or none) should be espoused, some scholars may find they need to mount a defense or attack from new angles.

Educational research is one area that has long recognized claims for the significance of feminist epistemology, whether or not those claims have been upheld although these claims have not always been upheld. Particularly relevant in recent work are questions of the relation of the knowing subject or epistemic community to the known; narrative, plurality, and particularity; testimonial and hermeneutical injustice; and posthuman issues of agency. Epistemologies of ignorance point the way to new research areas and possibly to new methods (Code, Phillips, Ruitenberg, Siegel, & Stone, 2011).

Educational policy and practice are concerned with knowledge and ethics, so close attention ought to be paid to the epistemologies of ignorance and the importance of epistemological responsibility. Implications are clear, for instance, in areas of curriculum design and pedagogy. The concepts of world traveling, testimonial injustice, hermeneutic injustice, and cognitive authority are all significant in decisions about what to teach and how to do it. Although there is still little published theory and philosophy in relation to these areas, there is increasing interest.

Morwenna Griffiths

See also Epistemology, Multicultural; Feminist Standpoint Theory; Gender and Education; Knowledge, Analysis of; Postpositivism

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Feminist Ethics

Feminist ethics aims to counter the traditional exclusion of women from participating in establishing the underlying assumptions, judgments, and emphases in the field of ethics. Women have not had a significant voice in discussing and questioning the presuppositions about who should make ethical decisions, about the kinds of reflection ethics should favor, or of the range of issues that can be considered to have ethical significance. This entry first describes the emergence of feminist ethics as a critical response to traditional masculine ethics and explores a selection of the diverse expressions of feminist ethics. It then considers how feminist ethics has influenced educational theory and practice, with reference to equality in education, curriculum and pedagogy, moral and citizenship education, relationships between school and family, and school ethos and leadership. Finally, it raises some ongoing critical disputes about and within feminist ethics.

Origins and Approaches to Ethics

Feminist ethics challenges a long history of doubt about whether women could reflect on and make decisions about ethical matters at all. From the 1980s, it emerged into the mainstream of philosophy, in line with growing academic attention to gender matters in various fields including education. Although traditional assumptions and issues in the history of ethics had been questioned by Mary Wollstonecraft, John Stuart Mill, and Simone de Beauvoir in the 18th, 19th, and 20th centuries, respectively, significant progress in establishing feminist ethics as a recognized endeavor became possible only in the wake of the activism of the women's liberation movement in the 1960s and 1970s. Feminist activists protested and resisted discrimination against women in the workplace and the home, raising issues that became worthy of academic attention; and feminist theory, especially in sociology and philosophy, started to address problems hitherto omitted from the ethics agenda. Feminist ethics changed the previously constituted focus of ethical theory by vociferously critiquing women's oppression and inequality and their assumed inferiority, challenging the conceptual bifurcation of public and private, and taking on aspects of social policy such as violence, sexuality, law and the family, employment and labor law, and women's agency,

development, health, and welfare. Not only had the experiences and concerns of women largely been ignored, but it also had been assumed that women lacked the necessary capacity—psychological and cognitive—for ethical reflection. Different virtues were expected of them: obedience, submissiveness, modesty, and caring.

The new feminist ethical engagements had implications not only for women but for all marginalized groups. Feminist ethics also differed in style from the traditionally argued texts of mainstream ethics, drawing in more wide-ranging forms of discourse including the novel, poetry, and autobiography. Criticizing the preoccupation of traditional ethics in the dominant Kantian tradition, with its rationally derived, supposedly disinterested judgments by autonomous individuals, feminist ethicists objected to the assumption that the ethical subject was a reasoning male who engaged in reflection about principles to be universally and impartially applied.

Challenging what feminists identified as masculine values and the exclusion of the body, emotions, and, particularity, key features of feminist ethics fall into four overlapping categories. First, it rejects the underlying assumptions and central concepts of traditional Western ethics that had ignored women's experience and reflected a profound gender bias. Second, feminist ethics rejects the subordination of women and is determined to foster their agency as well as gender equity. Third, it develops an alternative perspective in ethical theory that is informed by a revised conception of personhood. Fourth, it offers a feminist treatment of a different set of key ethical issues, realized by an expanded set of conceptual tools more suited to the task of ethical reflection and choice.

Yet in marking out these key differences, feminist theorists have adopted diverse approaches. For Marxist feminists, the central problem is the class system, in which women's domestic labor is exploited in the reproduction of children and also in ensuring the availability of men's labor outside the home. The priority for lesbian feminist ethics is resistance to oppression and domination, taking as paradigmatic caring relations among lesbians rather than between mother and child; in these relationships, there is reluctance to impose one's own conception of the good on others, and ethical choices are made in a shared context of resisting domination. From the perspective of radical feminist ethics, women need to take control of their own desires and reproductive powers, resisting compulsory heterosexuality. Stressing the need to de-essentialize, poststructural feminists critique the binary categories of gender and sex, arguing that we can only begin to understand the oppression of women by appreciating multiple explanations and the fluid social and cultural constructions of sex, gender, and sexuality. Emphasizing power, discursive constructions, and the necessary impermanence of understandings, some poststructural feminists see identity and gender as performances that change over time and under different circumstances. At least implicitly, all feminist ethicists raise key questions around gender as a social construct versus sex differences as innate and natural.

Justice and Care

A defining development in feminist ethics has been its critique of John Rawls's theory of social justice, the authoritative 20th-century work in liberal, ethical, and political theory. His theory describes basic features of a just society and the principles that regulate the lives and opportunities of its members, the distribution of goods and positions of power, and the terms of cooperation. Rawls proposes liberal principles that would be endorsed by free, equal, and rational persons: moral equality, respect for individual rights, and a fair distribution of both the burdens and the benefits of social and economic goods. The device of the hypothetical veil of ignorance famously presents his procedure for arriving at fair principles of justice by positing a thought experiment that involves blocking off knowledge about personal factors such as one's abilities and economic position. Participants in an imagined "original position" do not know what social role they would be occupying nor what interests and talents they would have (or lack) and so, presumably, would not support unfair social arrangements when deliberating about the nature of a just society. This procedure, Rawls posits, would lead to two principles of justice being accepted: (1) equal liberty for all and (2) fair equality of opportunity, with inequalities permitted only if these were for the benefit of all citizens.

Standard feminist criticisms of Rawls's ethics, and of the European Enlightenment tradition he is seen to represent, question the emphasis on reason, autonomy, and the independent individual as a bearer of rights who is devising and applying just principles impartially to all. Critics have been quick to point out that far from being equal, free, and independent, real ethical subjects are social beings

who are defined by interdependence with others and who are dependent for significant parts of their lives on the care of others. As an alternative to an ethics of justice, the feminist ethics of care places particular value on caring relations. Drawing frequently on the example of care between mothers and children, an ethics of care will be premised on trust, responsiveness to needs, cooperation, and reciprocity and will include attention to the role of emotions in understanding moral issues and moral decisions.

Critical of the abstract universalist emphasis on the rational individual, the moral psychologist Carol Gilligan offered one such alternative moral theory, claiming that men and women speak from and are driven by different moral standpoints, namely, the justice and the care perspectives, respectively. While keen to resist the assumption that the voice of care is, necessarily, the voice of women, Gilligan's work nonetheless suggests the existence of gendered difference, ascribing more connected, relational, caring roles to girls and more justice-oriented roles for boys. The moral development of boys will be more rational, more logical, and focused on making decisions on the basis of principles of justice, while girls will more likely attend to relational thinking and care, mirroring relationships with their mothers. Although her work remains controversial for many feminists, including those concerned that most of her subjects were White and middle class, Gilligan's contribution to the development of feminist ethics was significant: No longer could girls and women be omitted from developmental and moral psychology. Importantly, too, Gilligan encouraged a much greater focus on caring, for both men and women.

While a number of feminists regard caring as an ethical issue, Nel Noddings, arguably the best-known care ethicist among educators, insists that care and justice are distinct. Noddings's relational theory of care is premised on paired relationships in which care is at best natural, with "ethical caring" occurring only when a carer feels obliged to offer care. Clear that her theory of care, influenced by Gilligan's work, is neither comprehensive nor universal, Noddings holds moral decisions to be partial and located predominantly in the private domain with moral principles unnecessary. For some feminist ethicists, this raises the question of how we are to ensure that care is morally appropriate and that our circles of concern can transcend the immediate and partial. With respect to some accounts of care, feminist critics have also asked how women are to avoid the stereotypical trap of assuming the bulk of the responsibility for care in both the private and more public spheres of work. Care, wherever it occurs, is arguably an ethical issue demanding moral appropriateness and decisions based on a conception of the social good resulting in care that is both implicated in and can realize justice, and in care that is less gendered, less often the prerogative of women.

In education today, women are still often expected to be responsible for care and nurture. In the early years of schooling especially, women may take on roles more akin to traditional "mothering" than those most obviously attributed to educators. Do women accept such roles simply because they have, for the most part, been mothered, or because they are "naturally" predisposed toward nurturing, empathetic, close relationships, as the work of some early care theorists might suggest? On some accounts, women reproduce the caring they have received, understanding and "feeling" the needs of others, while men are more likely to see themselves as different and separate from their mothers and their "feminine" behaviors and capacities. On such views, the reproducing of motherhood might sustain the hegemony in which women are oppressed by expectations that they will assume caring roles while men are free to pursue careers. Accordingly, the ethics of care has been the subject of critique from feminists determined to counter understandings of care that can trap women into self-sacrificing disregard of their own interests and open them to exploitation and even abuse as the needs of others are given priority.

Feminist Ethics in Education

Feminist ethics in education pays particular attention to equal access to education through the just distribution of resources and to participation in historically male-dominated subjects like science, and it offers a critique of gendered curricula, including the hidden curriculum. With respect to moral education and citizenship, regardless of sex, it holds that citizens are to engage in rational deliberation between competing claims and opinions, are to be caring and are to be allowed a voice. The ethics of care has been extended to relations with others beyond the immediate and intimate, to the environment, and to distant others.

In a world now connected by neoliberal globalization in an integrated economy that favors the interests of the rich and powerful, the poorer underdeveloped regions are now locked into postcolonial

dependency. Global justice requires redistribution of goods and agency and that the less powerful who are excluded from making decisions with global consequences be given a voice. Some proponents of the ethics of care would observe that a justice-based ethics is not enough to prompt action to address global inequality and Third World poverty and that the ethics of care must be extended to distant others. If citizenship ethics is now informed by a notion of global citizenship, the extension of feminist ethics to the global context further illustrates how both care and justice have a part to play in recasting all ethical domains. Both care and justice offer instructive means for feminists to address contemporary ethical challenges in which there might be a shift from power relations between sovereign states and their citizens, often executed by war in what feminist critics of traditional international relations would interpret as a masculine intervention of the state and its citizens in competition with other nation-states.

School and Family

In liberal feminist ethics, the home is a legitimate focus of critique. While Rawls treats the home as the first school of moral education, what children learn in this school became a focus of feminist critique, as did Rawls's assumption that the "head" of the family would be a man. Feminist ethicists question the often inequitable domestic division of labor and the "natural," frequently implicit, authority of men over women in the family. Contrary to assertions that the family must necessarily be a good, healthy, and just institution, feminists have pointed to the family as being a site where both the reproduction of gendered inequalities across generations occurs, and where sex-based abuse—physical and psychological—may occur largely unnoticed. Feminist ethicists point out that attention to the family and calls for a return to "family values" frequently fail to attend to the diversity of the family today. There is also ongoing controversy about whether cultural practices regarding early or arranged marriage should be respected or whether critical thinking taught in the school should extend to such matters in liberal democracies. While Noddings extends care ethics from the home to public policy, other feminist ethicists see a role for the state in establishing the legal definition of the family and associated rights and responsibilities, and some feminists advocate a stronger role for schools in "undoing" the gendered assumptions and attitudes that may have been fostered in families.

School Ethos and Leadership

The tendency for men to dominate in positions of leadership in educational institutions is a further issue of concern for feminist ethics, not least with respect to ways in which such domination perpetuates a deeply gendered organizational culture and ethos in which women are relegated to lower echelons of the teaching profession. There appears to be a continuing assumption that while women are effective in subordinate roles, especially caring for young children, they may be less suited to and lack the necessary attributes for leadership. If, for whatever reason, women do have different ways of being and doing, the ethos and organization of schools might change for the better if they could both reflect and capitalize on women's talents. Leadership more effectively directed toward values central to feminist ethics might result in greater attention to things such as caring, relationships, more inclusive and democratic practices, and emancipation for staff. Feminist ethics offers resources for critiquing leadership practices and their effects on the ethos of the school while also providing the tools for subverting neoliberal policies and their resultant pressures on curriculum and pedagogy.

Feminist Pedagogy

Feminist pedagogy offers further opportunities to realize schools that can be both more caring and more powerful sites of struggle against the reproduction of hegemonic gendered practices. Curricula, on a feminist approach, will attend to issues of oppression and injustice across all sectors of society, including those affecting all women, while feminist pedagogy will disrupt the gendered status quo by revealing and disturbing traditional power structures and practices. It will give voice and autonomy to girls and women, thereby opening up opportunities for learning and for careers that are gender neutral, based not on one's sex but on what one is able to do and to be.

Current Controversies

Nature Versus Nurture?

Recent research in neuroscience on sex similarities and differences has reignited the controversy over the importance of nature versus nurture, and feminist ethicists have warned of the dangers of what has been termed *neurosexism*. They emphasize that the plasticity of the brain and its capacity

to respond to the environment is perhaps more important than ever, if feminists are to avoid a new master narrative of essentialism and, from whatever ethical perspective, to resist a return to a deterministic acceptance of gendered difference. Cordelia Fine has identified issues in the research itself and examined implications for educational policy and practice.

Justice Versus Care?

While some might assume that care and justice are mutually exclusive orientations, the range of ethical issues that feminists have identified in education can fruitfully draw on both. Liberal feminism has taken plausible steps to adjust the ethics of justice to accommodate the feminist critique of its traditional and Rawlsian expressions. So, for example, Martha Nussbaum's "capabilities approach" attends to both justice and care, building from—but critical of—some key elements of Rawls's account of justice. She is uneasy with the basic goods that Rawls identifies for just distribution, such as income, wealth, and position in society. She also finds that the free and equal parties in Rawls's original position do not take human diversity sufficiently into account, proffering instead a conception of persons that acknowledges that they are dependent on the care of others for at least part of their life span. Her account of social justice supports strategies to change institutions, including the family, to address women's place and the comprehensive doctrines that underpin the traditional views. She is critical of any approach to feminist ethics that supports, even implicitly, uneven power relationships such as one might witness in the family. Women should be treated as individuals of equal value and dignity, whatever their circumstances. Thus, Nussbaum's capabilities approach is focused on what all people are able to do and to be. A list of 10 central capabilities represents Nussbaum's response to questions about what is required to enable all to live a life with dignity. Importantly, Nussbaum's capabilities approach is premised on a construct of personhood in which all people are ends not means, and according to which, women may not be treated as means to the ends, to the plans and goals, of others. Such an approach has obvious implications for the equity of women's opportunities and their roles, duties, rights, and entitlements in social institutions such as families, schools, and places of employment. Nussbaum insists that it is unjust for women to be primary caregivers if providing care deprives them of any of the 10 central capabilities; it is the role of a good society to provide care for those who need it without exploiting women.

Feminist Ethics: A Colonial Discourse?

Like feminist theory in general, feminist ethics is vulnerable to the criticism that it is written mainly by Western, White, middle-class academics who succumb to precisely what they object to in traditional male-dominated ethics. Indulging unwittingly in race, class, and cultural bias, they mistakenly impose their own experiences and assumptions on working-class, Black and Chicana, aboriginal, Muslim, and other women in developing countries. Their critique of cultural practices in dress and in sexual and marital practices that they see as oppressive depicts women in these societies as voiceless, uneducated victims controlled by their men and in need of emancipation from tradition. Such alleged hypocrisy is compounded, moreover, by the material benefits that Western women derive from a global economy that has been especially destructive for Third World women's livelihoods and agency.

This critique of mainstream feminist ethics insists that the voices of women outside Europe and North America be recognized. These women have a principled and strategic need to develop an ethical discourse in their own context, safe from critique from outside hegemonies. Western feminists should avoid the temptation to speak on behalf of other women, failing to hear their voices. Instead, they need to attend to finding nonpatronizing ways to learn from them, in a manner that is inclusive, equal, and respectful.

Globalization in an integrated world economy has brought women from materially privileged and from developing countries into forms of association that demand an ethical response. Third World debt, unfair rules of international trade, and vast inequalities in access to educational opportunities help maintain the competitive dominance of the most developed economies. There is a danger of not acting on global injustices consequent on colonialism and neocolonialism for fear of inadvertently speaking on behalf of others. Insulating closed communities from all forms of critique may protect local patriarchies as well as global capital. Moreover, it might even discourage dissent from women in developing countries, who should not be treated as members of closed epistemic and ethical communities incapable

of engagement across difference. The terms of such engagement and possibilities for a global feminist ethics are still under negotiation.

Penny Enslin and Nicki Hedge

See also Colonialism and Postcolonial Theory; Gender and Education; Hidden Curriculum; Kant, Immanuel; Moral Development: Lawrence Kohlberg and Carol Gilligan; Moral Education; Neurosciences and Learning; Noddings, Nel; Rawls, John

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Feminist Standpoint Theory

Feminist standpoint theory emphasizes that women and men typically have different social positions and experiences. Women are, by and large, underprivileged relative to men and experience reality through work in ways men often do not. This can give women an epistemic advantage; they can know some things in a better or deeper way than men can. The advantage is potential and has to be realized through learning or consciousness-raising groups where women meet to discuss their experiences. This has important implications for education. Significant epistemic differences (grounded in significant social differences) call for different methods of learning. Women should be educated in ways suited to their potential that allow it to be realized as advantaged knowledge. Furthermore, as emphasized by Sandra Harding, standpoint theory implies that we should focus on the experiences of women and other underprivileged or marginalized groups as a source of knowledge and understanding; there is much to learn from them. This entry follows the development of feminist standpoint theory and explains its main characteristics and the criticism raised against it in feminist scholarship.

Early accounts of feminist standpoint theory (e.g., Dorothy Smith's and Nancy Hartsock's) were pronouncedly influenced by Marxist accounts, according to which the working class has the potential to understand the social and economic reality more reliably than does the exploiting bourgeoisie. The bourgeoisie's interest in suppressing the truth about how it exploits workers hinders its ability to conceive the social reality as it truly is. The working class, in contrast, has an interest to see the exploitative social reality for what it is so that it can be brought to an end. Moreover, the working class has greater potential to conceive the social reality accurately because it experiences firsthand its dire aspects. The working class is epistemically advantaged also through its potential to develop a "dual vision": Because of the dominance of the bourgeoisie, its ideology is known also by the working class, which, therefore, is familiar with both its own and the bourgeois understandings of reality. The bourgeoisie, however, has access only to its own point of view. But workers have only the *potential* to enjoy their epistemic advantage. Many suffer from false consciousness as they internalize the bourgeois ideology and values and, thus, do not comprehend their exploitation for what it is but deem it deserved and just. Advantaged knowledge often has to be attained through education and effort.

Feminist standpoint theory, especially in its earlier stages, drew largely from this model but replaced the Marxist class division with a feminist gendered division of labor. Like the working class, women experience many of the material aspects of the world. Women do so through housework and child rearing, in ways that men do not. Women have

the motivation to notice the unjust sexism in the social reality that men have an interest to ignore. And women, too, have the dual vision (which early feminist discourse sometimes called "bifurcated consciousness") of both their own and men's conceptions of reality. As in Marxist theory, in feminist standpoint theory as well, mere group membership is insufficient for enjoying the advantage. Since many women suffer from false consciousness that leads them to accept their underprivileged condition as good and just, attaining advantaged knowledge requires education.

Marxist thought considers the relation between the working class and the bourgeoisie as the most basic and important one in the modern era. It downplays the other types of oppression from which workers suffer (e.g., national, racial, or colonialist oppression) and takes the latter to be less significant or largely based on the primary one. Similarly, early feminist standpoint theory focused on women's oppression as a basic phenomenon and tended to downplay other types of oppression from which women suffer or to see them as mere variations on women's oppression. Later feminist standpoint theories, however, have emphasized also these other types of oppression. Patricia Hill Collins, for example, has argued that Black women's experiences and White women's experiences differ in important ways and, thus, that Black and White feminists have significantly different standpoints. Collins's analysis implies that the differences between White and Black standpoints may be as important as those between women's and men's standpoints. In some ways, Black women and men may have more in common than Black and White women. This, of course, has been claimed also for other underprivileged groups. It has been suggested that several axes of oppression can intersect in every person. A person may be oppressed in some ways (e.g., as a woman) while an oppressor in others (e.g., as a wealthy, Western White person). Thus, standpoints have come to be understood as complex, encompassing many social positions that may inform one's epistemic positions in a variety of ways.

It has been argued that such analyses develop feminist standpoint theory in some ways but undermine it in others. These analyses suggest that there are many types of oppression and that women's oppression is no more important than others (e.g., oppression of Blacks, Hispanics, or the poor). But this runs counter to the notion that there is a relatively united, homogeneous women's perspective, with only some minor variations (between, say, White, Black, Hispanic, and poor feminists). Thus, under these analyses, women's standpoint emerges as highly fragmented, to the extent that it is no longer clear that it makes any sense to talk of women's standpoint at all or to see it as a focal standpoint that enables advantaged knowledge of many issues, as the working-class's standpoint is considered in Marxist theory. Indeed, many postmodernist feminists have completely rejected the notion of a feminist standpoint, emphasizing, instead, myriad changing positions in each person. To cope with this problem, feminist standpoint theorists have had to argue that women's oppression is somehow more important or severe than other oppressions. But many feminist standpoint theorists have been reluctant to make this move, while many Black, Hispanic, and other feminists are unambiguous in their rejection of it.

Some feminist authors have voiced other criticisms of feminist standpoint theory. Bat-Ami Bar On, for example, has argued that since the theory found women's epistemic advantage on their oppression, it forces women to choose between continuing to have accurate knowledge and ending their oppression. Sylvia Walby has claimed that founding epistemic perspectives on different social economic positions raises questions about the possibility of sharing knowledge. The more people's knowledge is taken to be based on their different economic and social positions (rather than, say, on interaction or education), the more unclear it is how people succeed in sharing or communicating knowledge. Yet knowledge is frequently and successfully shared and communicated.

Another line of criticism acknowledges that women's experiences in childbearing, child rearing, housework, and certain other activities may endow them with advantaged knowledge in these specific spheres. Likewise, women's oppression may allow them a deeper understanding of sexism in society and of other types of oppression. But critics suggest that it is problematic to extrapolate from an epistemic advantage as regards these specific issues to an epistemic advantage as regards other issues or an epistemic advantage at large. Yet another criticism emphasizes false consciousness. Many—perhaps most—oppressed women in the world endorse sexist views, such as that wives should obey their husbands or that immodestly dressed women "deserve" to be raped. Uprooting such views has proven to be very difficult and raises the question of

whether the oppressed position is not epistemically disadvantageous rather than advantageous.

Sandra Harding, probably the most prolific writer on feminist standpoint, has described it as the most controversial feminist epistemological view. Indeed, it has been criticized more than any other feminist epistemological theory. Many feminist theorists, however, still espouse it, presenting, over time, and under pressure of criticism, progressively more moderate and, thus, also more defensible versions of the theory. These newer accounts have significantly distanced themselves from their Marxist roots (which often remain unmentioned) and present the feminist standpoint as less unified and central and as endowing more modest epistemic advantages than earlier theories held. Critics suggest that these modified versions of standpoint theory are less vulnerable to criticism than their more radical predecessors but, at the same time, render the standpoint less significant and of fewer practical and educational implications.

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See also Epistemology, Multicultural; Feminist Epistemology; Feminist Ethics; Gender and Education; Moral Development: Lawrence Kohlberg and Carol Gilligan; Postmodernism

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Foucault, Michel

Michel Foucault (1926–1984) is among the most widely cited 20th-century theorists in educational research. His most important contribution to this field has been in providing the resources for a sustained critique of the educational endeavor. Due to the scope of his work—which extends well beyond educational matters—and the radical consequences of his critical perspective, Foucault's ideas are typically difficult to apply. To fully appreciate the insights Foucault has to offer, it is important to situate this work within his wider critique of the present.

Tone and Scope

Discipline and Punish, one of Foucault's most famous books, contains a statement that indicates the tone and scope of his critical venture: With the rise of modernity, according to Foucault, the soul became the prison of the body. This modern soul has no vital or inextinguishable essence, but it is no illusion either. Unlike the soul of Christian theology, it was not born in sin but was born from methods of punishment, supervision, and constraint. It was a material product created through multiple techniques, extending across sites including the newly developed institutions of mass education.

The consequence of this claim is to make freedom—a political project based on securing and protecting individual selves from the effects of dominant power—inherently problematic. For Foucault, the modern men, women, and children that 19th-century campaigners, politicians, and bureaucrats would seek to free, were already conditioned by forces much greater than themselves as the instruments of a wider political economy. Their souls, made from the resources of the institutions that had schooled them, were already limited constructs, devised to suit the needs of government in the form of responsible and docile subjects. This, Foucault argues, is the dark underside of Western modernity, which through its commitments to liberalism and democracy would secure education and votes for all. Those newly established liberties were underwritten by multiple techniques that would instruct citizens to use their freedoms "appropriately."

These are monumental claims. Many other similarly iconoclastic statements may be found in Foucault's work, which ranges from histories of madness, medicine, and prisons, to the workings of power, knowledge, government, and subjectivity. Foucault was, nevertheless, a meticulous and canny thinker, careful to avoid grand theories and epic claims. He preferred to look from the "bottom up," believing that dispassionate work, work that appears to view its subjects from above, or even from the outside, is impossible. This led him at times to appear noncommittal, unwilling to declare his political and philosophical allegiances. Foucault's work is often

doggedly and sometimes frustratingly descriptive, making it difficult to work out what Foucault was seeking to achieve in political terms. While his political commitments were strong—indeed Foucault was no stranger to protest, direct action, arrest, deportation, and even police brutality—Foucault has been criticized for refusing to declare what exactly he was arguing for or what values guided his work.

The reason for these refusals was Foucault's suspicion of those very values and what they were based on. In particular, he suspected that the human subject, in whose interests ethical systems are often justified, is always a local construction. There is no universal human subject of history in whose name we could speak. Foucault was able to show that many features of contemporary life are locally contingent, especially those features that we most take for granted. They have histories and thus, in principle at least, are open to change. Grander illusions, such as the presumed freedoms that modern education helped establish, are broken apart according to their histories. These "genealogies," as Foucault was known to call them, often muddy the origins of our most resplendent ideals by situating these ideals within the banal transformations of everyday conduct from which they emerged. Here, and in many other respects, Foucault aligned himself with the thinking of Friedrich Nietzsche, who argued that morality itself is just another social construct. The history of morality, like any other history, is marked by turbulence. Moral meanings change through unexpected reversals; there is no internal or developmental consistency to the history of morality. Often, the agent of change is trivial in appearance to be located in some minor adjustment or other that has taken place in personal or social conduct. For Foucault, histories are seldom grand or progressive; they are gray and turbid.

Power and Confession

In educational research, Foucault's work on power has been particularly influential. Here great care must be taken to avoid misunderstanding. Foucault emphasized the productivity of power, its generative potential. He was careful to avoid a repressive hypothesis where in education one might identify techniques as "bad" because they appear to limit the freedom of the student. Highly mechanistic devices such as examinations or tests are frequently placed in this category. It is tempting to identify the most severe of these as devices that trample the interior of the child and, therefore, conclude that they have no place in an educational context. Foucault would be more cautious (though, typically, thinking in a way that would be likely to outrage conventional understanding) in suggesting that these techniques may be central to the educational endeavor.

Educational techniques such as those developed by 19th-century schools (the first institutions of mass schooling) were able to shape individuality in such a way that those concerned were isolated from one another but open to the influence of government. Practices of division and exclusion (where the student is divided within, or divided from others) were combined with techniques that would enable the individual to turn himself or herself into a subject, techniques that would enable one to recognize externally defined traits within the self and then act on them. As a material reality, the modern soul constructed here depends on a terrain of concepts within which it can be determined. It relies on external categories ranging from more general ideas—psyche, subjectivity, personality, consciousness—to more child-specific notions: the troubled child, the child of promise, the borderline child, the resilient child, and so on. The child's interior, in other words, was the product of external ideas and systems for locating those ideas within the self, which, in turn, influenced how that self was formed. Foucault's interest was to identify the material practices through which this occurred.

In educational contexts, these material practices can be very intimate. Relations between teachers and students are sometimes close, where the latter are encouraged to confide in the former. Foucault explored these relations under the general rubric of "pastoral power," focusing in particular on confessional practices, where students may be encouraged to reveal and explore their inner thoughts and feelings. This might occur during periods of pastoral care or through a whole-class task as basic as a reflective diary, where students are asked to explore the events of a weekend just gone by. Foucault argued that the obligation to confess, to reflect openly on one's inner being, has become so deeply ingrained that we no longer see it as the effect of a power that constrains us. It seems as though the "truth" that is lodged within only needs to surface and that if it fails to do so, some sort of constraint, or inhibition, is to be blamed for holding it in place and weighing it down. It is presumed, in other words, that confession frees, while "power" forces one to remain silent. This, Foucault suggested, is the

"ruse of confession." His point was to argue that power functions in the opposite direction, instructing individuals to produce truths about themselves and rendering silence awkward. In educational contexts, students must learn to reflect on their "inner" selves using approved techniques and categories. The cumulative effect of observations like these is to raise the suspicion that educational relationships are never innocent; they are built from synthetic devices that have carefully fabricated effects. It is significant that the techniques described here are those associated with progressive education, thus indicating that no pedagogy is purely benign, that no pedagogy can claim to be above the stratagems of power. From this perspective, and taken as a whole, education becomes nothing less than a great artifice. Little that is "natural" or without consequence remains.

Theory and Strategy

Foucault was a subversive thinker who set about challenging conventions. It is often assumed, for example, that knowledge arrives once power departs. If power remains, so the argument goes, its effects may contaminate knowledge. Foucault sought to show how the two are intimately linked: The human sciences were born from observations, and these required human samples. Social groups such as children formed ideal test subjects. They were already in the required form of measurable samples, having been temporarily held captive by the school. For the past two centuries at least, as children and then as adults, we have been examined at multiple sites. This has led to an overall inversion of visibility thanks to which previously ignored, unknown, and marginalized groups as well as more general but minor phenomena have been brought to prominence. The production of knowledge once prioritized the powered elite whose biographies were the only ones worth telling. Now the minor historical actors, their traits and biographies, have been opened up to inspection. Either directly visible through forms of optical surveillance or indirectly visible by means of the data trail that is left when passing through various agencies and institutions, the individual is captured within an array of documents and becomes accessible thereby to the influence of power.

From this perspective, power cannot corrupt knowledge because knowledge is already the product of power and is tied up within its operations. The overall effect is to deny exemption to any form of knowledge or any science that claims the right to truth. Everything becomes subject to skeptical inquiry. The assumption here, which takes the form of a basic strategic–analytic choice, is to presume that everything is dangerous, for power is everywhere. This founding critical stance encourages the educational theorist to engage in a radical critique, targeting in particular those aspects of the educational endeavor that are seen as natural, or unproblematic, and have as a result been allowed to remain unchallenged.

According to its dispersal, power is never entirely located in powerful institutions. It is never totally possessed as if it could be accumulated and concentrated, as if it could be brought to one place so as to be absent elsewhere. Equally, it would be a mistake to assume that power is governed by a single organizing principle and to argue that an instance of power represents the wider interests of capital, patriarchy, or the state. These are displacements, Foucault argues, by which we evade the real question of power in all its complex detail.

The difficulty with this position is that it implies the impossibility of denouncing power from the outside, simply because power is everywhere. Here Foucault adopted the stance of a hyperactive pessimist, suggesting that critique is at its most productive when it remains alert, avoiding the temptation (and potential satisfaction) of standing back to offer a global analysis, and then condemn. Foucault suspected the global analysis of perpetuating an illusion of truth that would have damaging effects: Political action that is based on a single global diagnosis of power will almost inevitably reinvest some of the power mechanisms that are to be overthrown. Here, Foucault was particularly critical of revolutionary activities guided by a Marxist analysis of state power. He claimed that socialist states reproduced in different guises the cruelties and inequities they sought to destroy. Radical, emancipatory theory had failed to anticipate these outcomes because of its tendency to reduce the complexities of power to simplistic relations of domination and exploitation.

Against this tendency to blindness concerning power, Foucault argued for a profusion of gray, meticulous, and patiently constructed inquiries into the multiple effects and modes of functioning that power takes. Educational researchers who seek to adopt Foucault's theoretical framework are challenged to avoid passing judgment in their critique, which would be based on a normative ideal of the purpose of education. This antinormative injunction

will presumably enable researchers to interrogate educational concerns with greater caution and more critical insight.

It is worth remembering, however, that Foucault's invitation to exercise caution in analysis was not symptomatic of his preference for academic reserve. That was not his affliction. Rather, Foucault believed that a transformation in analytic techniques of the sort he promoted should be accompanied by experiments involving new forms of political conduct to which the insights gained through critique could be related. His was a radical project, sensitizing readers to the multiple effects of power and exploring the contingencies of government and subjectivity. Foucault promoted a form of intellectual labor that was never to be separated or abstracted from political praxis.

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See also Critical Theory; Liberalism; Neoliberalism; Nietzsche, Friedrich; Postmodernism

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Freire, Paulo: *Pedagogy of the Oppressed* and Critical Pedagogy

Paulo Freire (1921–1997) was a Brazilian philosopher of education whose theory of education as a practice of freedom claimed that to realize their deepest possibilities as human beings, people needed to intentionally shape history and culture even as they were being shaped by that very history and culture. This historicity and the reflective action (praxis), the labor through which it becomes embodied, constitute the primordial capacities for free action. The nurturing of those capacities marks the foundational task of a humanizing or liberatory education.

Freire argued that oppression occurs when social, economic, political, and ideological structures undermine or prevent certain people or groups of people from enacting their basic human need to be free in order to shape the history and culture within which they live. Oppression thus constitutes a form of dehumanization.

Freire's theory of education aimed to counter dehumanization by structuring and making systematic what was most deeply human. His seminal book—*Pedagogy of the Oppressed* (1970)—elaborated the implications of his view of human nature, making historicity the starting point not only of understanding the essence of human beings but also of an emancipatory pedagogy. His theory and pedagogy have influenced movements for social justice on every continent, and they have affected classroom practices among educators seeking a humanistic approach to teaching and learning. Freire himself worked in a variety of geographical locations and was at one time a consultant to UNESCO (United Nations Educational, Scientific and Cultural Organization) and the World Council of Churches.

Foundations of the Theory

Theories of education illuminate the changes elicited from, or imposed on, human nature to turn that natural person into a morally, socially, and culturally ideal person. That is, some kind of education mediates between who we innately *are* and who we *should be*. Freire argued that praxis (reflective, conscious action) and historicity (people's capacity to make history and culture at the same time as history and culture make them) are the two defining features of human existence and the defining essence of being free. The ideal society for Freire is one that maximizes this essence for all people, and he argued that this entailed a just and democratic society.

The praxis and historicity at the core of human nature also set the task for education as a practice of freedom for a liberatory and humanistic education. This approach to education constitutes a form of cultural action that awakens people to the power that resides within them to transform themselves and their world. Because simply by being human we

are always already continuously producing history and culture (as history and culture also continuously act on and condition us and our world), we need only become critically and consciously engaged in that process (praxis) to be enacting our capacity to be free and to be forging a society shaped toward ends we have chosen for ourselves. In a society that is unjust and nondemocratic because large numbers of people are oppressed or dehumanized, and are excluded from participating in their own self-determination, this kind of education creates a counterforce to these realities and embodies just and democratic practices.

A liberatory education involves oppressed communities in a collective questioning of the "commonsense" everyday understanding of life and of the explanations for why the social, economic, political, and cultural realities have come to be. The critical consciousness that arises through this questioning even interrogates the process of knowing itself and the self-understandings of those who are oppressed. It seeks to uncover the ideological distortions of knowledge, so that a clearer "good sense" of reality and the self can be achieved. This knowing better of what had previously been known only from a dominant ideological perspective is not something achieved in thought alone. Rather, "conscientization" or critical consciousness is only gained through action, through praxis. Paulo Freire called this praxis *dialogue* to emphasize its communicative and meaning-making properties.

Dialogue is not mere conversation, nor a way of taking turns in discussion. Rather, dialogue is a collaborative critical investigation of what prevents oppressed people from being self-determining, from intentionally producing a culture and society that accords to all this essential human right, and this investigation is embedded within ongoing actions that challenge and overcome those situational limits. This kind of dialogue provides a way for oppressed people to "speak a true word" and emerge from the "culture of silence" that has long dehumanized them. Freire regarded the "culture of silence" not simply as the ways that the literal speech, or voice, of the oppressed is prevented from being verbalized or expressed in language. Rather, this concept references the institutional and structural marginalization of the needs and interests of oppressed groups, and therefore the response—"speaking a true word"—is not achieved in language alone but only through actions aimed at challenging and transforming the institutions and power relations of the society.

Freire's radical pedagogy was designed to elicit these transformative actions. He embedded the pedagogy within literacy projects that linked the reading and writing of words (the actual interpretation and production of linguistic signs) to the reading and writing of reality (the interpretation and production of daily life). This literacy becomes critical through investigating the defining structures and power relations that shape everyday experience and identifying transformative "limit-acts" that break the constraints of dominant institutions and ideologies.

These critical investigations and efforts to reconstruct society to make it more just and democratic enable oppressed people to "know better" the "common sense" that legitimates dehumanization. With "good sense" undergirding their emerging critical consciousness ("conscientization"), they can challenge not only the social, economic, and political structures that maintain the power of the dominant groups but also the internal psychological structures that maintain their own collusion in oppression.

Freire argued that these pedagogical tasks of intentionally producing a just and democratic society in which the oppressed can be self-determining amounted to a process of *cultural action for liberation*, and this ongoing transformation of everyday life was the way in which human freedom is realized.

A Critical Pedagogy

Educators worldwide took hold of some core elements of Freire's theory, particularly its articulation of the contrast between traditional schooling ("banking education") and education as a practice of freedom ("problem-posing education"). Freire's analysis (see *Pedagogy of the Oppressed*, chap. 2) enabled educators to fashion a critical humanizing pedagogy that could be applied in classrooms for both children and adults.

Banking education centers on the knowledge, language, goals, and interests of the teacher and of the institutional, social, economic, and political power represented in the formal structure of schools and in the authorized curriculum. The teacher actively teaches, while students passively absorb what is taught. The teacher thinks and talks, and the students listen and memorize. The teacher knows, and the students are ignorant until their minds are filled with the content that the teacher deposits in them. The teacher disciplines the students to conform to the dominant order, and the students learn to be passive and compliant. Banking education not only

objectifies and dehumanizes the students through these structures and dynamics, but it prepares them to accept their oppressed position in the larger society. Even more insidiously, banking education operates under the guise of neutrality, obscuring its commitment to the maintenance of the status quo. This reinforces the dominant ideology that blames the victims of injustice, as if the effects of the dehumanization inflicted on them by the structural inequities undergirding the institutions of society, including its schools, were their own fault.

In contrast, problem-posing education rejects the possibility of neutrality and makes explicit its own ethical and political commitments. It elicits and strengthens the subjectivity and agency of oppressed students; it recognizes them as cocreators of the history and culture in which they live. Problem-posing education is dialogical and collaborative throughout, bringing the voices, interests, and perspectives of the students into a critical engagement with their everyday social, economic, and political realities. This engagement reveals the dehumanizing limits imposed on their realities by unjust social, economic, and political institutions so that they can intentionally act to transform and overcome those limits. Problem-posing education illuminates the foundational power inherent within each person and every community to make society more just and democratic.

In problem-posing education, teachers and students learn from and teach one another. Each has knowledge, values, and skills that they bring to the pedagogical encounter. The methodology of critical pedagogy centers on the analysis of representations of everyday life that encode the institutional and structural relations that reinforce and maintain dehumanizing systems of power. These "codifications" are developed through a study of the formative concrete experiences and linguistic practices that together constitute the "thematic universe" of the learners. The codifications symbolically—through images, words, dramas, or other creative productions—represent the common experiences of the oppressed, and when they are analyzed dialogically, the oppressed can get some distance from their everyday reality to be able to read it critically.

Most people, most of the time, live submerged within the ordinary experience of their lives, seldom questioning how the social, economic, and political structures came to be the way they are, or questioning the commonsense meanings and explanations that legitimate the inequitable status quo. The analysis of the codifications brings the historical development of society into view and, thereby, also brings into view possibilities for its intentional transformation in the interests of the oppressed. A critical pedagogy links the particular concrete everyday experience of the learner with broader historical and cultural structures that condition that experience. It thereby facilitates critical understandings of the causal forces that shape not only the institutional features of society but also the very identity of the oppressed along class, race, gender, and other ideological dimensions. The critical understandings become sharpened as the oppressed become subjects in history, acting with intention to intervene in the structures and processes of daily life in order to produce alternative futures. That is, in the pedagogical process of knowing themselves and their situations at deeper and more systematic levels, the learners also discover themselves as historical subjects, as human beings capable of transforming oppression.

Thus, a critical pedagogical praxis is a form of reflective, intentional, collective action, action that enables oppressed people to resist the dehumanizing ideologies and institutional structures that limit the realization of their needs and interests. A critical pedagogy facilitates the emergence of the oppressed people's capacity to speak for themselves, to name and pursue self-determined goals, and to organize and mobilize for the assertion of their rights.

Criticisms and Limits of the Theory

Although broadly acclaimed and widely read—more than a half million copies of his foundational book, *Pedagogy of the Oppressed*, sold worldwide in its first 20 years—Freire's theory was criticized from a variety of perspectives. Some Marxists found it too Hegelian or idealistic, with too much emphasis on the communicative and cultural features of society rather than on the material conditions and relations of labor. Some feminists noted how its emphasis on socioeconomic class completely elided gender oppression, while other critics noted the elision of race oppression. Related to both of these criticisms were questions raised about the complexities due to the intersection of class, gender, and race oppressions; only very limited insight into this constellation of issues could be provided by Freire's binary analysis of oppressor–oppressed. Some scholars were concerned about the overemphasis in the theory on cognitive understandings of consciousness, with the concomitant exclusions of the body, feelings, and

emotions from the analysis not only of critical consciousness but also of both oppression and liberation. Related to these criticisms were questions raised by some thinkers who discerned a problematic reliance in the theory on European-origin philosophies, modernist logics, and cognitive forms of rationality.

These substantial criticisms have been echoed in philosophic examinations of Freire's theory, which focus more pointedly on its ontological, epistemological, and ethical dimensions. Some comment on the conflicting interpretive grounding of Freire's primary theoretical sources in particular traditions in Marxism, existentialism, and Christianity, and they trace certain contradictions in the theory to the problems that arise when trying to weave those roots together. Such conflicts can be seen, for example, in Freire's conception of humanization as the ontological "vocation" of human beings. The theological notion of vocation undermines the more historicist ontological interpretation required when analyzing oppression (which Freire labels dehumanization), since it is also a way that humans produce the history and culture that they live. However much we may want to condemn dehumanization from an ethical point of view, we cannot ground this condemnation in an ontological claim. Similarly, Freire inconsistently historicizes his epistemological position, at times deploying a foundationalist view of knowledge or truth claims. Finally, Freire's effort to provide an ontological origin for his ethical ideal of democratic socialism necessarily founders on the logical conundrum of deriving "ought" from "is," and thus, his laudatory ideals require independent ethical and political justificatory arguments that he failed to offer.

Despite the force and range of the critiques of Freire's theory, it has continued to animate the thinking of a wide variety of scholars and activists. This is because he wrested penetrating insights from the opaque workings of history and from his relentless critique of his own practice. Freire argued that what mattered was not so much the consistency and durability of his theoretical formulations but far more the ethical coherence of his relationships with others and his commitments to improve the lives of the least advantaged. On this measure, none can doubt that Freire was above reproach.

Limits to Common Practices Claiming to Enact a Critical Pedagogy

Despite frequent protestations from Freire and other scholars, common practices claiming to enact a critical pedagogy based on his theory in fact domesticated or elided its most important elements. His praxis-oriented concept of dialogue has been widely misinterpreted to mean a kind of individualistic give-and-take conversation between teachers and students, as if simply giving each student a chance to speak and taking turns among speakers would somehow produce effects that could transform the dominant ideological structures of oppression (which reach into even the most humanistic and emancipatory classrooms). Liberation from oppression requires strategic "limit-acts" undertaken by organized collectivities, and dialogue is the form of praxis through which such acts are imagined and embodied. Freire's critique of banking models of education have similarly been misinterpreted to mean that teachers should never lecture or that they did not have a duty to share their expertise and direct certain aspects of learning. He insisted that teachers had a professional responsibility to be knowledgeable in their discipline and that they have the pedagogical expertise to construct learning environments and to pose questions that could unveil the reality of everyday life and draw students into a critical engagement with their learning and with the lives (history and culture) they were producing. Freire insisted on the moral and political equality among teachers and students, but he critiqued the false inferences to their epistemological and pedagogical equality.

Despite the limits to common so-called critical pedagogical practices and the deep misinterpretations of Freire's theory on which they are based, it is an undeniable truth that countless classrooms have become more humane as committed progressive teachers pursued the compelling dream that Freire articulated.

Ronald David Glass

See also Apple, Michael; Critical Theory; Feminist Standpoint Theory; Marx, Karl

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Freud, Sigmund

Known as the founder of the movement, theories, techniques, and clinical practices of psychoanalysis, Sigmund Freud (1856–1939) was one of the most influential figures of the 20th century, who revolutionized our understanding of the mind and its realms of the unconscious and the conscious, and of sexuality. He viewed each of us as being a stranger to ourselves and proposed a depth psychology that grappled with the conflicts that lay hidden from us—between love and hate, happiness and unhappiness, history and memory, life and death, and union and separation. Freud perceived psychological suffering as emerging from the loss of love and from forgotten or repressed incidents from the individual's childhood history. Recognizing the psychological fact of the human's slow maturation, and prolonged helplessness and vulnerability to others, Freud had education as a motif running throughout his work.

Freud identified the unconscious and its pleasure principle as the source of our significant, though unknown, motives for action, thought, and perception. He found that unconscious desires were expressed in dreams, slips of the tongue, jokes, and everyday mistakes, and he treated perception as passionate, that is, not as a neutral faculty but as oriented to wishes. Awareness or consciousness of one's own mental acts, he argued, is the exception in mental life. Freud then raised the novel question, what are the unconscious attitudes and history of mental development beneath the surface of behavior?

Biography

Subjectivity is the starting point of psychoanalysis, and Freud's biography is relevant to the design of his theory; those approaching his work can avoid neither his life nor his surprising admissions and his usage of his own self-analyses.

Freud was a Viennese Jew, deeply affected by the anti-Semitism of his time that culminated in National Socialism's rise to power and the death camps. In 1938, he went into exile, living his last year of life in London. In his youth, he had studied medicine at the University of Vienna, from 1873 to 1882, following which he became a researcher in physiological science, and by 1886, in partnership with Josef Breuer, he began a psychotherapeutic practice treating hysterics. With his patients, he created "the talking cure," and, against the current of his time, he left the method of hypnotic suggestion behind and instead interpreted illness as communicating a story of suffering that could be revealed through the patient's words. This orientation led him to design the method of free association, in which he requested patients to say anything that came to their minds without censoring their thoughts, and he asked them to report their dreams.

His interest in archaeology provided a metaphor for this realm of the unconscious—it could be understood as fragments of forgotten impressions buried and so preserved. His research revealed that childhood events were formative, but he also recognized that many of these events were subject to infantile amnesia; one of his most contested ideas was that memory and forgetting are two sides of the same coin and that we act out or compulsively repeat what cannot be remembered. In other words, the meaning of actions and mental representations cannot be revealed by the actor's intentions, since the human faculty of reason too is subject to an unconscious psychology of motives.

In sum, then, Freud's psychoanalytic theory depicts the mind as dynamic and multilayered, with much of a person's behavior driven by the inner unconscious realm and by the associated desires and drives. The terminology he used within this theory eventually saturated the vernacular and is now widely familiar.

Freud's psychoanalytic writing—23 volumes and an index, known as *The Standard Edition*—is a cornucopia of topics and styles. He wrote case studies of his therapeutic practice and wrote papers on psychoanalytic techniques, metapsychology, and group psychology; he made studies of art and literature; he discussed war, nationalism, and death; and he wrote histories of the psychoanalytic movement, lectures for popular audiences, and historical studies on mythology and religion. Peppered throughout this work are his key concepts along with the problems they identify: sexuality, the Oedipal complex, the meaning of dreams, the roles played by the unconscious, the psychical world, transference love, and symptoms of illness such as neurosis, psychosis, anxiety, resistance, and psychological defense mechanisms. He blurred the lines between health and illness and sanity and madness and considered that if love holds the person together, its loss causes him or her to fall apart. (Freud maintained that there are three sources of human suffering: loss of love, loss incurred through historical and natural disasters, and loss of the self; the loss of love was the most

painful.) He defined "the cure" as the capacity to work, to love, and to tolerate the myriad losses that reality incurs.

Major Theoretical Themes

Freud developed two theories of the mind. The first, called the *topological model*, posited that the mind had three layers—the conscious, the preconscious, and the unconscious. By 1920, his second structural model (compatible with the first) proposed dynamic interacting psychical agencies that he called the ego ("the I"; German, *Ich*), the id ("the It"; German, *Es*), and the superego (German, *Über-Ich*) (the latter two being, respectively, the unconscious and instinctual portions of human nature and the set of sociocultural norms and strictures that individuals acquire usually in childhood and that act as a form of moralizing conscience). The new problem that arose here concerned the nonunitary or divided nature of the subject. This led Freud to focus on the realm of human affect (feelings and emotions) through its major indicator—anxiety as fear of loss of love; he then took on the emotional volatility of the internal world. Late in his theorizing, Freud viewed the ego as being formed through its history of identifications and held that it is subject to three dangers: (1) internal pressures emanating from the id, (2) the demands of conscience and feelings of guilt coming from the super-ego, and (3) forces from the external world. For Freud, the ego was a creature of compromise, and its work involved perception, reality testing, judgment, thinking, and the handling of incompatible thoughts. Its strengths were also areas of its vulnerability.

Freud's theoretical breakthrough had emerged from studying his own dreams as a portal to his unconscious mental life. While the interpretation of dreams can be traced back into antiquity, Freud saw dreams as the royal road to knowledge of the unconscious. He recognized that they had two layers of competing meaning: (1) the manifest and (2) the latent. His method of interpretation of the latter took into account the dream world's method of disguise—dreams expressed forbidden wishes, but these were highly disguised through the "dream work" of condensation, displacement, reversal, substitution, and representation. He came to understand that, as well as in dreams, the unconscious erupts in bungled actions, linguistic errors, jokes, accidents, forgetting important details, and everyday mistakes.

Another breakthrough came with Freud's approach to sexuality, which he regarded as beginning with the infant's bodily erotogenic zones, stimulated by parental care and love. Oral, anal, and genital experiences orient the child's precocious sexual researches and inaugurate curiosity toward where babies come from, the difference between girls and boys, and an interest in parental sexual life. The complexities Freud ascribed to children and his insistence on their search for truth and knowledge inaugurated the new fields of child psychoanalysis and psychoanalytic pedagogy. The idea that sexuality comes early, and is both precocious and polymorphous in perversity, expands the concept of sexuality—it becomes related to the capacity for curiosity, imagination, intellectual life, sublimation of the drives, and the desire for knowledge of others.

These grand themes of the unconscious and sexuality led Freud to grapple with issues such as why we follow authoritarian leaders and what is the impact of group psychological life on the individual; here Freud's theories of the subject and intersubjectivity become significant for education, by way of the idea that even as one is in the throes of identification with the rivalries and demands of group psychological life, by narrating this as a story one can gain distance from its projections, compliances, and authoritarian tendencies.

Applying psychoanalysis to social problems requires a facility with Freud's theories and imaginative flexibility. Consider, for example, the nature of human culture. Freud found this to be the source of what is tragic in the human—aggression, the proclivity toward violence, and his postulate of the impulse he called Thanatos, or the death instinct, socially sanctioned by war, nationalism, and narcissism of minor differences. While his study on civilization and unhappiness asked again about love and hate and how happiness in a cultural context is possible, he nevertheless considered culture as a powerful force in sublimating aggression.

The strengths of Freud's theories are also their weaknesses—and a close reading reveals that he took an interest in these. His work resided in speculations, hypotheses yet to be proved, and imaginative leaps that took him beyond the limits of experience. Readers bring strong views to Freud, and there are common tendencies to dismiss Freud through clinging to one's own experience, psychoanalyzing Freud's motives, and concluding that Freud reduces all human reason to psychological processes and to pansexuality. In Freud's favor, no one can settle the problem of where misery or discontentment comes

from and why education both induces anxiety and creates the means for its symbolization.

Deborah P. Britzman

See also Analytical Psychology: Carl Jung; Individual Psychology: Alfred Adler; Neill, A. S., and Summerhill; Psychoanalytically Oriented Theories of Child Development; Rogers, Carl: Freedom to Learn

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Froebel, Friedrich

The German educator Friedrich Wilhelm August Froebel (1782–1852) was among the most important educational theorists of the 19th century. Today, he is primarily known as the founder of the idea of the kindergarten. The son of a Lutheran minister, he was profoundly shaped by his early religious experience. While his religious beliefs were at first quite orthodox, he eventually embraced a highly spiritual and pantheistic view of the world in which the forces and manifestations of Nature literally revealed the truths of religion and the meaning of God. As he explained,

> Nature presents the truths of religion in visible form, and confirms what we learn by meditating upon God. What we thus conceive we find existing in the material world. So it is that nature satisfies the demands of religion. For like all that exists, nature reveals God. (Froebel, 1912, p. 97)

Like his Swiss mentor, Johann Pestalozzi (1746–1827), Froebel felt that children had unique needs and potentials that required careful development and nurturing. According to him, children should begin to be educated shortly after birth. Learning would then continue as a lifelong process. His model emphasized not only hands-on learning for children but also their development of a spiritual understanding of the world.

Froebel's educational philosophy is most clearly outlined in his 1826 book *The Education of Man*, in which he described God as a "Divine Unity" who connects all living and inanimate things through the divine spirit. Ideally in his system, children would be taught to observe and understand the world in which they lived. Learning involved being, as much as possible, one with Nature. This model contradicted the notions of philosophers such as John Locke (1632–1704), who believed that the child was a vessel to be filled with specific information and knowledge by the instructor or teacher. This idea that the child/learner should not have ideas forced on them explains, to a large extent, why Froebel appealed to more modern educators such as the American progressive John Dewey (1859–1952), who emphasized learning as a process of exploration and self-discovery for the child.

Froebel opened the first kindergarten in 1837 in Blankenberg, Germany. Many of the ideas he developed for the school were a direct outgrowth of his two-year apprenticeship as a forester, as well as the time that he worked as a mineralogist in the Royal Museum in Berlin. From his work as a forester, Froebel almost certainly developed a greater sense of the spiritual elements found in the natural world, while his work as a mineralogist probably made him more aware of patterns found in Nature. Both of these ideas—that is, the spiritual connection between things and the patterns found in Nature—were key concepts for his kindergarten curriculum, which was loosely described as the "Gifts and Occupations."

These "Gifts" and "Occupations" were a series of activities intended to provide the child with a clearer understanding of how the world works. Many of the activities were not just practical but also deeply spiritual in nature. Twenty in number, they were ranked in terms of their complexity and difficulty. The Second Gift, for example, physically demonstrated the German philosopher Georg Wilhelm Friedrich Hegel's (1770–1831) dialectical theory of thesis ← → antithesis = synthesis. This idea, which argues that through the conflict/friction of opposites a synthesis emerges, was not only a key philosophical concept for 19th-century philosophical thought, but

manifests itself in the writings of later figures such as the political philosopher Karl Marx (1818–1883). The Second Gift specifically demonstrated Hegel's theory by employing a three-inch wooden sphere, a cube, and cylinder. The child would feel the wooden sphere (often blindfolded), making note of its roundness, and then feel the cube with its flat linear sides. Finally, he or she would explore the cylinder, which is a synthesis of the sphere and the cube, being both round and flat, properties (the synthesis) that conform strictly to neither the sphere nor the cube.

Many of the Gifts and Occupations have become commonplace in various forms in early childhood education and culture. Sadly, they are used today with little knowledge of their origins with Froebel and the kindergarten. For example, the Third through the Sixth Gifts are a set of building blocks, whose sophisticated design provided the basis for the Unit Block system that is in widespread use in early childhood settings today. Likewise, the flat parquetry squares and triangles that were used in the Seventh and Thirteenth Gifts are commonly used in contemporary classrooms as part of mathematics instruction (tessellation). The Nineteenth Gift is a primitive Tinkertoy-like set made of cork balls and toothpicks, which demonstrates to the user basic engineering and structural forms.

Froebel's work is largely neglected in our own era. His connection to the modern kindergarten is distant at best. This is unfortunate, since he has a great deal to say to contemporary educators. Like the more recent anthropologist Gregory Bateson (1904–1980), Froebel was interested in the "pattern which connects all the living creatures." In Froebel's case, this manifested itself in the form of God. Such an approach need not necessarily be religious but can be ecological in Nature—one that involves how all things in Nature are interconnected and related to one another in the larger phenomenon we call Life.

Eugene F. Provenzo Jr.

See also *Century of the Child, The*: Ellen Key; Montessori Education; Pestalozzi, Johann H.

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G

Gadamer, Hans Georg

See Hermeneutics

Gandhi, Mahatma

Human societies have evolved through the cumulative contributions of their members. But some individuals stand out for their unique contributions to the enrichment of human life and the positive transformation of society. Luminaries such as Leonardo DaVinci, William Shakespeare, Isaac Newton, Charles Darwin, Albert Einstein, Ludwig Beethoven, Leo Tolstoy, Nelson Mandela, and Bertrand Russell come to mind. Their life journeys inspire some and evoke debate among others. Mohandas Karamchand Gandhi (1869–1948) continues to evoke both reverence and hatred. By looking at his life, we can gain some understanding of how he changed the lives of Indians during British colonialism, and we can see how his ideas continue to be relevant in this age of globalization. Gandhi saw the purpose of education not simply in terms of acquiring knowledge but as the building of character. He believed that education was a liberating force that required the development of body, mind, and spirit. His belief in the power of education was an important element in his campaign for Indian self-rule.

Gandhi's name, however, is inextricably associated with nonviolence, and the model offered by his life in this respect is widely studied in peace education programs. However, equating Gandhi with nonviolence in a narrow sense would be missing the essential Gandhi—to know him in this way, as we need to know not only what he achieved in his life but also how he lived his life. Since his life is his message, as he put it, this entry is an attempt to provide a brief but panoramic view of Gandhi's life in order to drive home his essential message.

Born and educated in India, Gandhi earned a law degree in London and moved to South Africa in 1893 on the invitation of a client to provide legal assistance. There he experienced firsthand the indignity of racism directed at both Blacks and minority Indians. He decided to fight this injustice, and the struggle kept him in South Africa until 1914. He had experienced racism in London, but South Africa was different. The shocking experience of being thrown out of a first-class train compartment even though he had a valid ticket, the insult of the nonrecognition of Indian marriages by the state, the humiliation of being forced to carry identity cards, and, of course, the naked racism practiced against the Blacks—all these exposed Gandhi to new challenges. He decided to stay and take these challenges as an opportunity. He launched a civil disobedience movement in South Africa. This was the beginning of a lifelong struggle to learn how we ought to live our lives. It was the beginning of what he would call his "experiments with truth."

The Making of the Mahatma

Truth (*satya*), nonviolence (*ahimsa*), and nonattachment (*aparigraha*) are cornerstones of Indian philosophy and religion. Gandhi grew up in a religious

environment where these exerted great influence. Beginning with his stay in London, he was also influenced by the Bible; the Indian scripture, the *Bhagavad Gita*; John Ruskin's *Unto This Last*; and the writings of Leo Tolstoy. Gandhi paraphrased *Unto This Last* and decided it pointed in the direction of a life worth living. The welfare of all became his life's goal and sacred duty (dharma).

Gandhi adopted a life reduced to minimum necessities, and he worked his influence on his wife, Kasturba, at the same time. She went to jail to protest South African leader General Jan Smuts's nonrecognition of Indian marriages. This was a turning point for Gandhi, and he began the process of transforming ancient Indian ideals into concrete programs of action. With truth and nonviolence as his uncompromising moral principles, he launched his civil disobedience movement and experimented with the use of satyagraha (soul force) as a constructive weapon for waging nonviolent struggle against oppressive regimes. Satyagraha means insistence on truth, and the ideal satyagrahi possessed inner strength and the ability to face physical oppression inflicted by his or her opponent.

Gandhi lived in South Africa for more than 20 years—the most revolutionary and transformative years of his life. While it was not until much later that the Indian poet laureate Rabindranath Tagore gave Gandhi the title of "Mahatma" (Great Soul), in reality, he became that person in South Africa. There is a saying in South Africa, "India gave us Mohandas and we gave them back a Mahatma."

The Mahatma in India

Aboard a ship on his way from London to South Africa, Gandhi wrote down his dream of a free India, published in 1909 as *Hind Swaraj*. He returned to India in 1915 and led the freedom movement, which was based on massive participation of Indians. Millions identified with him and were able to grasp his method of satyagraha. He identified with Indians facing a wide variety of problems and tried to provide them with hope for change. People were drawn to him, lining up at railway stations and roadsides to get a look at him. When he built his residence (ashram) in Ahmedabad between a cemetery and a jail, he commented that this was the right place for a satyagrahi, one who is prepared to suffer and die for a good cause.

Although Gandhi was a prolific writer, he communicated with the people directly, traveling widely in the country. He also introduced the use of the spinning wheel, which was as much a political and ideological symbol as a real indigenous-based economic tool meant to alleviate suffering.

As a freedom fighter, Gandhi did not spend all his time rallying against the British Raj; a good deal of his time was spent rallying Indians for true independence (swaraj), awakening them to their own, homegrown social ills, which, he said, had chained Indian society. He launched a host of social reforms, each of which earned him a separate group of enemies. The programs included the spinning wheel and the *swadeshi* movement, eradication of untouchability, the welfare of the harijans (*dalits*), Hindu–Muslim unity, protection of animals (in particular, cows), agitation against liquor, and promotion of women's empowerment. For Gandhi, political freedom from British colonialism and freedom from repressive domestic social evils went hand in hand.

Gandhi drew strength from many religions, considering himself both an Indian citizen and a citizen of the world. If truth, nonviolence, and satyagraha (soul force) were the foundation of his struggle, then swaraj (freedom), *swadeshi* (self-reliance), and *sarvodaya* (welfare of all) were his life's goals. He introduced a new, apprenticeship-based system of basic education (*nai talim*) and experiential learning, the relevance of which has been stressed by many educators. Gandhi's India resided in her 7,000 villages, and his dream of a free India was based on the foundation of a decentralized, self-reliant village economy rather than on a centralized, top-down bureaucracy.

The Broad Message

Gandhi believed in simplicity of living and the reduction of wants to basic necessities. He believed that unchecked greed is unsustainable. "The earth," he remarked, "produces enough for everybody's need but not for everybody's greed."

Gandhi also believed in community, a life based on sharing and sacrifice. He implemented his vision first with his family. Gradually, his ashrams exemplified it; and it was adopted by his satyagrahis.

Gandhi spoke of freedom from fear. He insisted that no one can rule us without our consent. Many found his actions of breaking unjust laws and pleading guilty with consequent personal suffering both heart wrenching and empowering at the same time. When he would be arrested and put in jail, people would demonstrate en masse, get arrested, and fill the jails. This led both to the loss of fear of jail and to the jails becoming useless as a means of suppressing dissent.

Gandhi was a hands-on man with a clear goal and a long-term vision of what he wanted to achieve. He also believed in forgiveness. There were many times when he was manhandled or beaten. He was forgiving both because he was a genuinely forgiving man and because it freed him from unnecessary distraction. While a proportionate response to violence may seem just to many, violence was violence to Gandhi, no matter how it came about; he believed that seeking an eye for an eye would make "the whole world blind."

Gandhi spoke of "the universal law of love." He claimed to have no enemy. Holding no office, he represented the conscience of millions. He had a strong confidence in struggling with the right means and not worrying about the outcomes. He insisted that "fair means alone can produce fair results."

The Essential Message

Gandhi had no invention, no creation. Even nonviolence was, as he said, as old as the hills. But he took what was old and gave it power for the present. The tradition of nonviolence was essentially a moral and spiritual tradition in India: He added to it the power of concerted, strategic, mass action for social change. He was dealing with the question of how we should live, and his answer insisted on *action*.

Gandhi was loved by millions and called Bapu (father); he was revered by millions and called Mahatma, although few who revere Gandhi today wish to live like him.

Gandhi saved the tradition of nonviolence from political irrelevance. It became his cornerstone for humanity's quest for justice and peace. Coming on the stage when the Industrial Revolution was at its peak and humanity was challenged by the machine, a time when nations were sliding into world wars, Gandhi challenged modernity by indicating a different way forward. To show this way, he turned his life into an experiment for the world to see—both successes and failures alike—and became a mirror to the world. As he said, his life is his message.

Rama Shankar Singh

See also Indian Religious and Philosophical Traditions and Education; Peace Education

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Gender and Education

The rise of gender as an issue of concern for social research, policy, and practice has had a major impact on the field of education. While typically associated with a strong policy and practice agenda to address gender-based disadvantages, the gender and education couplet has also fueled a diverse range of theoretical and empirical scholarship. This has brought new perspectives to understandings of the purposes, effects, and experiences of education and shown the importance of questions to do with identity, sexuality, and relational dynamics. Of course, gender existed as a differentiator and marker of educational experiences and outcomes prior to the 1970s and the rise of second-wave feminism. The significant turning point lay in identifying such differences, and gender itself, as matters that warranted scholarly and policy attention. This entry discusses the study of gender inequality in education, the influence of feminism on education, the use of the term *gender* in educational research, and the influence of poststructuralism in research on gender. It then discusses the increasing research on boys' educational experience during the 20th century, as well as more recent and emerging issues in research on gender education.

Education has been a central site of feminist inquiry, examined for its part in (re)producing gender-based inequalities, for promoting changes in gender identities, roles, and relations and for questioning the construction and effect of gender normativities (Arnot & Mac An Ghaill, 2006). A significant legacy of early feminist interventions was to interrupt commonsense views about gendered experiences and futures, by identifying some differences as not natural and acceptable but

as social problems and inequalities that demanded redress. Gender differences in subject preference, postschool aspirations and destinations, informal social and interpersonal practices, and so on were noticed as problems, as reflecting a gender order that produced advantages and disadvantages (McLeod, 2004). How such differences were and are conceptualized, and their sources and effects analyzed, continue to be debated, contributing to the emergence of a rich and varied field of educational scholarship.

While one might hesitate before claiming feminism's influence on education as universal, its impact is far-reaching. Gender equality as a formal aspiration is enshrined in policies in developed and developing countries and in the goals of international agencies such as the United Nations. The *United Nations Millennium Goals* include the target to "Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015" (United Nations, 2010). Improving gender equity and access has been an important but not the only strand of research and policy. Gender and feminist scholarship has also addressed the epistemological, ethical, and relational dimensions of education. This encompasses making problematic what has counted as worthwhile knowledge, according serious attention to the effects and forms of interpersonal relations, and examining the intersecting practices and processes that shape gendered identities across diverse educational sectors and settings. Much debate within the field of gender and education is characterized by struggles over how to recognize claims to difference and claims to equality—with reference to differences between genders and differences within gender groups. Does recognition of gender differences weaken claims for equality? Does equality demand sameness, or can equality accommodate difference? Responses to such questions have fueled extensive theoretical and philosophical debate and shaped feminist educational reforms.

Sex, Gender, and Identity

The term *gender* typically signals an attention to the socially formed nature of male and female identities, relationships, and orientations. This contrasts with earlier uses of the term *sex* to denote differences between males and females, which often assumed such differences to be fixed or natural. In educational research from the early 1980s onward, gender began to replace sex as the preferred descriptor of male/female identity differences, reflecting debates within feminist and social theories that looked to the social and discursive dimensions of identity. In the sex-differences mode, researchers tended to assume that the category of sex was stable, and research was concerned to investigate its effects. In the gender-research approach, attention has been more on investigating how patterns and forms of differentiation are produced, and consequently, it has helped spawn a large body of research concerned with processes of gender construction in education.

Important shifts in conceptualizing difference and identity in the field of gender and education can be schematized as follows. Notions of sex role and socialization marked second-wave feminism, and in education, this translated into a concern with investigating sexism, nontraditional roles, and equal opportunities. Reflecting the influence of socialization theories and symbolic interactionism, identities were seen to be much like social scripts, and with the right messages, nonsexist roles were possible. The 1980s saw a turn to focusing on specifically feminine and masculine ways of being in the world, reviving in some respects notions of inherent, embodied gender differences—but with a positive inflection. Influenced by ideas from cultural feminism and feminist psychology and philosophy (see, e.g., Gilligan, 1982; Martin, 1986), educational researchers explored distinctive feminine learning styles, pedagogies, and knowledges, seeking in part to recast understandings and expressions of femininity not as something to be ignored or erased in the educational conversation but as integral to it and as deserving recognition and value. On the one hand, the turn to "difference" in education promoted relatively conventional ideas about masculinity and femininity and of gender relations. On the other hand, it encouraged a more nuanced account of the heterogeneity of gender identities. Notions of intrinsic difference were challenged in the 1990s by a sustained focus on gender as a social or discursive construction, thereby placing analytic attention on the circumstances and conditions that produced or shaped gender identity. If gender was social, then it was open to change and variation. The conceptual binaries of natural and social, as with those of difference and equality, present ongoing dilemmas for gender researchers in education, reflected as well in

the focus and rationale of policy reforms, navigating between, for example, noticing or not noticing gender as a category of concern or seeing gender differences in learning styles and aspirations as amendable to intervention.

Gender and Other Factors

Concurrently, feminist theory was shaping and being shaped by the wide range of ideas and analyses that come under the banner of poststructuralism, which provided an influential theoretical approach for understanding gender and subjectivities. Within education and beyond, it generated large bodies of research addressing the diverse ways in which gender identities and relations were not natural or essentialized, and/or stable or singular, but rather they were multiple and contingent, and/or produced and performed. These ideas have provoked considerable debate, often leading to polarized positions, which remain influential today. At one end of an imagined continuum, poststructuralism is seen as signaling political inertia, driven by antiessentialism and discourse determinism that undermines the very category of "woman" and concepts of agency. While some feminists lamented that poststructuralism was bad for women and bad for politics, other feminists challenged the very formulation of such a view of (feminist) politics and of subjectivity, arguing that such critiques represented not a repudiation of the subject but an interrogation of its construction as foundational (Butler, 1990). Here, poststructuralist arguments were brought to challenge some of the foundational narratives of feminism itself, and this too was felt across gender researchers in education. At the other end of a continuum, feminism and poststructuralism were seen as pursuing potentially complementary lines of analysis, both posing skeptical and deconstructive questions to normalizing practices and working to destabilize taken-for-granted truths—of gender subjectivity, of gender relations and relations of power, and so forth (St. Pierre & Pillow, 2000).

The spread of these ideas accompanied a growing unease about the ethical and political effects of addressing gender in isolation from other social and identity categories, fostering more sustained attention to differences within gender categories, and a focus on the social and subjective effects of intersecting differences—of race, ethnicity, class, sexuality, disability/ability, age, and religion. Often called "intersectional analysis," it examines relations between different dimensions of identity—of class and gender, or race and gender—reviving critiques of the universalism of gender or tendencies to homogenize gender-based inequalities and experiences in education (Ali, Mirza, Phoenix, & Ringrose, 2010). Questions of sexuality, homophobia, and heteronormativity were placed firmly on policy and scholarly agendas. While these matters had been central in earlier second-wave feminism, particularly among radical feminists, the poststructural and intersectional turns helped give renewed emphasis to the multilayered dimensions of gender as a social relation and an identity. At the same time, there is some evidence to suggest that gender, as a focus for sustained policy focus, as relevant to professional knowledge, or even as relevant to scholars beyond the field identified as "gender and education" research, is no longer as prominent as it has been in the preceding decades. This is likely due to many factors, not least the views that gender inequality is not the problem it once was, that there are demonstrable improvements in the circumstances and opportunities of some women, and that feminist agendas, both scholarly and professional, have now been mainstreamed.

In the final decade of the 20th century and into the next, growing concerns about the educational experiences and outcomes of boys led to what has been characterized as a "boy turn" in gender and education research (Weaver-Hightower, 2003). For some, this represented a backlash against feminist gains, for others, it was about giving equal attention to boys, to correcting the imbalance of attention on girls and women, when—this argument said—there had already been substantial, if not too much, feminist, progirl activity. A proliferation of research and polemic ensued, informed by a mixture of ideas about forms of social and educational fairness and equality, and often reviving notions of natural difference between the genders. Many feminist and profeminist educators have regarded these interventions as counterproductive and based on flawed or limited evidence. However, one less remarked-on effect is that arguably these debates also contributed to unsettling understandings about gender and education, forcing a critical refocus on the relational dimension of gender and education as a field of policy, practice, and lived experience. At the same time, scholarly work on masculinity, and the influence of concepts such as "hegemonic masculinity" (Connell & Messerschmidt, 2005), have been crucial in expanding the sense of what matters as part of the gender and education field,

and in encouraging critical analysis of (structured) relations of privilege and subordination, not simply as patterns and points of gender differences.

Current and Emerging Issues

Contemporary scholarship in gender and education is characterized by a degree of theoretical diversity, engaging with and informed (by and large) by social science—including psychological fields—and humanities traditions. However, the influence of social constructionism and of poststructuralism—in both their "weak" and "strong" versions—continues to shape much work. Maintaining robust theoretical diversity and dissension is an important challenge. So too are the challenges posed by engaging with the far-reaching effects of globalizing processes and transnational flows of ideas, people, and capital. Gender and education scholars, along with others, are increasingly looking beyond the concerns and theories emanating from the global north and west to heed the challenges and questions posed by nations and regions that have usually been on the edges of such discussions, unless introduced via gender and development discourses (Connell, 2011). Discussions of spirituality and religion are on the rise, notably in relation to the politics of exclusion, questions of tolerance, identity and difference, and responses from national systems, schools, and curriculum programs to expressions of religious diversity. Expanding research on sexuality and sexual politics, developing insights from queer theory, and giving more visible attention to lesbian, gay, bisexual, and transgender issues are important in current agendas. Many longstanding issues command and demand ongoing attention—most particularly, in relation to gender-based violence, bullying and harassment, and the emotional, affective, and relational dimensions of education—those of community and care and concern for others (Lynch, Baker, & Lyons, 2009). In the contemporary period, gender is mainstreamed as a category for data collection and for auditing access and participation, yet in many parts of the world, it is simultaneously at risk of disappearing as a priority focus for educational policy and reform. Grappling with such complexities in the present are part of the making and remaking of the field of gender and education.

Julie McLeod

See also Feminist Epistemology; Feminist Ethics; Feminist Standpoint Theory; Identity and Identity Politics; Martin, Jane Roland; Moral Development: Lawrence Kohlberg and Carol Gilligan; Noddings, Nel; Postmodernism; Sexual Orientation and Gender Identity; Social Constructionism

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General Systems Theory

See Accountability and Standards-Based Reform; Complexity Theory

Globalization and World Society

Globalization is a term frequently used to capture the reality that diverse peoples of the world are increasingly economically, politically, and culturally interdependent. Numerous scholars have called attention to how advances in communication, transportation, and computerization have fundamentally altered human existence, to the extent that we might describe contemporary human societies as networked societies. Along these lines, globalization has been characterized by scholars such as David Held and Anthony Giddens as the reduction of time and space such that happenings in one part of the world hold the potential to implicate people in other parts. Although globalization most recently is linked to the technological advances of the middle to the late 20th century, the actual dawn of widespread contact across distant regions of the world dates back to earlier developments, mostly linked to the emergence of worldwide trade, such as the emergence of the Silk Road and the rise of transoceanic shipping. Such developments also contributed to the rise of colonialism, which, for some, might be seen as the dark side of globalization. On the other hand, globalization creates a demand for new conceptions of citizenship and so serves as a challenge to educators and to philosophers of education.

Evolution of Globalization

Globalization brings greater numbers of peoples into contact, largely creating two competing possibilities: (1) the potential for domination by more powerful groups (typically operating as extensions of particular nation-states) or (2) the possibility for forms of cooperation consistent with the ideal of a world community or society. There are many examples of both outcomes. In terms of domination, examples include the rise of the great European powers in the 16th and 17th centuries, whose advanced shipping industries and great navies served to colonize vast regions of the world. The emergence of the United States as a world power, and in particular the deployment of its military to further its own economic interests, has been described by Noam Chomsky and Gore Vidal in a manner consistent with forms of domination and imperialism. The same may be said of the former Soviet Union and its domination of parts of Asia and Europe.

As for the emergence of a world community in which nation-states collaborate toward common goals, an obvious example is the founding of the United Nations in 1945 to promote world peace and security. A key facet of the peace-serving mission of the United Nations is served by its International Court of Justice. Other regional and global organizations also tend to fit the world society ideal, including, most recently, the development of the European Union and economic entities such as the Organisation for Economic Co-operation and Development, the World Bank, the International Monetary Fund (IMF), and the World Trade Organization (WTO). Here, though, the ideal of a world society gets somewhat convoluted; some critics argue that the WTO and IMF, among others, actually serve the interests of world economic powers and, consequently, may be better understood as vehicles for domination rather than cooperation. The counterargument offered by supporters of such organizations is that the world benefits when common economic policies are followed, such as when all nations are compelled to eliminate trade barriers (protectionism) relative to specific industries.

Critics of Globalization

Obviously, positions vary on the role of organizations such as the Organisation for Economic Co-operation and Development, World Bank, WTO, and IMF. Official meetings of these organizations, and others such as the G-8 (Group of Eight), have attracted significant opposition, reflected in many cases by massive street protests like those at the WTO 1999 summit in Seattle. These forms of oppositional movements have been described as "antiglobalization" movements, but in fact, they tend to be in opposition to a particular strain of globalization, described as neoliberal globalization (or neoliberalism), so-called because of the focus on advancing free markets through liberalizing

global trade (hence, the "new" liberals or "neo" liberals). Neoliberalism generally is seen to be consistent with the fundamental teachings of Milton Friedman (and his followers known as "the Chicago Boys") and initially was advanced at a global level largely through the political leadership of Ronald Reagan ("Reaganism") and Margaret Thatcher ("Thatcherism"), both of whom advocated a global marketplace with limited governmental interference. Supporters of this economic philosophy tend to see open markets as a better source for enacting just social policies, as opposed to government officials, represented by various political and economic interests, making such decisions on the basis of taxpayer-generated revenue. Reagan's famous quote that "government does not solve problems; it subsidizes them" tends to be consistent with this line of thought.

Although many scholars approach analyses of globalization in economic and political terms, others instead focus on its cultural facets or what might be described as cultural globalization. A common refrain is that societies are becoming more homogeneous, with some arguing that the world is undergoing a form of "Americanization," "Westernization," or "McDonaldization"—the latter reflective of an argument advanced by George Ritzer. Other scholars reject the idea of a world culture emerging under the influence of the West and instead point to the hybridization of cultures and societies, drawing to some extent on the work of Edward Said among others. Scholars subscribing to this perspective, including Allan Luke and Carmen Luke, note examples of localized cultures accommodating global influences, but often on their own terms and in unique ways. Such a perspective suggests a certain level of empowerment among localized populations, an argument largely absent from discussions of globalization as a form of Western domination. The Westernization argument also tends to ignore the influence of cultures originating from other regions of the world; a notable example here is China's widespread influence around the world.

World Community and Global Citizenship

The ideal of a world community also suggests particular notions with regard to citizenship. Terms such as *cosmopolitanism*, *world citizenship*, *global citizenship*, and so forth have proliferated over the past three decades among social theorists concerned with the changing context of the nation-state. Just as the term *globalization* has a much longer history than is typically acknowledged, notions of world or cosmopolitan citizenship also date back to a previous age. For example, within the context of Western intellectual thought, cosmopolitanism may be traced back to the ancient Greeks, with later updates offered by Enlightenment thinkers. But again, the emergence of highly interdependent networked societies has increased the emphasis on notions of world citizenship.

Some writers argue that as nation-states lose influence over global affairs, giving way in part to multinational enterprises, intergovernmental organizations, and nongovernmental organizations, forms of global citizenship are needed to fill the void left by a declining sense of nationalism and national citizenship. Anthony McGrew, for example, argued that the territorial model of liberal democracy is increasingly challenged by globalization. Consequently, new forms of citizenship highlighting universal rights and responsibilities disconnected from a particular geographic locale (or nation-state) are increasingly needed. A point of emphasis here is the call for worldwide recognition of basic rights for all human beings, advanced to a great extent by a range of social movements (e.g., women's movements, children's rights movements, environmental movements, etc.) and supported philosophically by the Universal Declaration of Human Rights adopted by the United Nations in 1948. Worldwide social movements aimed at advancing universal rights have been described as "globalization from below," which typically is contrasted with global initiatives advanced by powerful organizations and groups and described as "globalization from above" (typically associated with neoliberalism).

Advocates of a world society, often embracing the ideal of global citizenship, argue that contemporary challenges confronting the world's population are too great and complex for individual nation-states to resolve. Issues such as global warming, environmental degradation, widespread ethnic conflict, the proliferation of famine, the continued use of militarization as a form of conflict resolution, threats of global pandemics, among other worldwide concerns, require nations and their citizens, including key organizations and social movements, to work together as stewards of the planet and of peace. Along these lines, Robert Rhoads and Katalin Szelényi (2011) posited that we live in a world in which technology seems to have outpaced the

"social imagination and our ability to construct societies and social relations in a manner consistent with promoting world peace" (p. 6). They argued for a form of global citizenship that incorporates both a sense of world obligation (and rights as well) with a commitment to the local/national context; in other words, global citizenship represents a form of engagement in a larger world society but does not necessitate abandoning more localized rights and responsibilities.

Opponents of the world society ideal come from multiple ideological vantage points. For example, the far right in the United States often stands in opposition to global initiatives led by organizations such as the United Nations, maintaining that such intergovernmental organizations compromise the autonomy of the U.S. government and hence limit its ability to act in the interests of U.S. citizens. Criticism also arises from the political and ideological left, but here, the attack is mostly directed at the neoliberal strain of globalization. Chomsky has been a major voice among such critics, arguing that the neoliberal version of the world order places corporate profit over people. Opponents argue that neoliberals tend to promote global policies favoring corporations and large investors, reflecting the perspective that a rising tide lifts all boats (a version of Reagan's "trickle-down economics"). The critics further argue that only the wealthy actually benefit from neoliberal policies, pointing to the growing gap between wealthy and poor nations, as well as wealthy and poor individuals within particular nations. Jerry Mander (2006) pointedly argued that "the model does not lift all boats, only yachts" (p. 8). For critics such as Chomsky and Mander, the neoliberal version of globalization that now dominates the world is unlikely to strengthen notions of a world society, given that it is seen as perpetuating inequality.

Contemporary forms of globalization involve the widespread reduction of time and space and offer the potentiality of a world society. However, opposing ideological and political perspectives confound any clear articulation of the world society ideal. While some advocate a world community governed by the values of a free market system, others see the need for forms of governmental intervention to address economic inequalities and social problems. And still others oppose any attempt at reducing the power and autonomy of their own nation's role in global affairs. As a result, theories linked to the world society ideal, and to related concepts, such as global or cosmopolitan citizenship, must reconcile a host of complexities and contradictions in the quest for clarity and usefulness.

Robert A. Rhoads

See also Citizenship and Civic Education; Colonialism and Postcolonial Theory; Cosmopolitanism; Economic Development and Education

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"Gold Standard" Research: Controversies

See Educational Research, Critiques of

Goodman, Paul

Paul Goodman (1911–1972) was a public intellectual who is best known today for his 1960 book *Growing Up Absurd*, one of the primary influences on the New Left of the 1960s. Goodman rejected the common claim that the problem with education lay in the schools' failure to properly socialize students. To the contrary, Goodman argued that students were oversocialized and would benefit from the dismantling and decentralization of the public school systems. He proposed a number of small-scale experiments intended to take over the function of the nation's overwhelming, monolithic school systems, and provide authentic education, rather than babysitting and job training. While Goodman's work is largely forgotten today, he has recently received attention as the subject of the documentary film *Paul Goodman Changed My Life* (2011).

Born in New York City, Goodman graduated from the City College of New York in 1932 and received a PhD from the University of Chicago in 1953, writing a dissertation titled *The Structure of Literature*. Goodman's publications included several volumes of poetry and short stories; *Gestalt Therapy*, a book written with Frederick Perls and Ralph F. Hefferline; *Communitas*, a book on city planning coauthored with his architect brother Percival; and several books of social criticism published in the 1960s and early 1970s. He was a pacifist conscientious objector to World War II, a practicing psychotherapist, and an open bisexual who was one of the forerunners of the gay liberation movement of the 1970s.

While almost all of Goodman's work, including his fiction, included some reference to education, this entry will focus on two late works that express the culmination of Goodman's philosophy of education: *Growing Up Absurd* (1960) and *Compulsory Mis-Education* (1964). In both works, Goodman challenged the common view that problems like juvenile delinquency arise from a failure of socialization, from the youths' inability to adjust to society. Rather, youth were maladjusted because the society in which they lived was one into which it was not worth growing up. Thus, educational theory focused on adjustment to society will inevitably fail when that society lacks adequate opportunities for experience and growth.

Goodman was, of course, not alone in tracing the problems of education to larger societal problems. However, while the vast majority of educational theorists proposed programs designed to improve the public school systems, Goodman took nearly the opposite tack, advocating the elimination of compulsory education. Goodman was well aware of the fact that he was attacking a basic bulwark of Enlightenment values; after all, unless accomplishments like literacy are widespread, we cannot hope to escape our intellectual tutelage. But he found education as it currently operated more conducive to strengthening our intellectual dependence on society's elites than to helping us become part of an active, informed citizenry.

Our educational system is designed to construct good workers who have adjusted to society rather than citizens who, themselves, create society. Goodman further claimed that the function of the schools was to provide babysitting, useless administrative jobs, contract work, and students for education schools, as much as it was to educate. The school system was more of a training ground providing skills for employment than a system designed to create enlightened, active citizens; hence, the contemporary (1950s) focus on science education to keep up with the Soviets.

Goodman's proposals for alternatives to compulsory education cannot be understood without an understanding of his political theories, which were based in what we might call his "conservative anarchism." His anarchism was grounded in the general claim that centralized, hierarchical structures tend to be detrimental to human flourishing, while decentralized, open-ended structures tend to promote human flourishing. Goodman was open to certain exceptions to this general claim. Some aspects of society *might*, Goodman confesses, be more conducive to human happiness when organized centrally and hierarchically, but they were exceptions to the general rule. Goodman did not propose large-scale projects that would reproduce the problems of centrally organized institutions; rather, he suggests piecemeal experimentation that would directly involve citizens where they are most likely to be competent and where the consequences of failure would be contained.

Anarchism may be divided into destructive and constructive phases. In its destructive phase, anarchism attempts to destroy centralized systems of power, especially state power. In its constructive phase, anarchism builds up decentralized institutions as alternatives to the present centralized systems. Both phases can be worked on at the same time; one might work to undermine the power of the state while creating alternative institutions intended to take over the essential functions of the state. We have already seen Goodman's destructive phase: the elimination of compulsory education. The constructive phase is just as important to Goodman's philosophy of education.

Goodman proposes several alternatives to compulsory education at the K–12 level, as well as alternatives to de facto compulsory education at the college level. Regarding K–12, Goodman argues that the simple fact of making education voluntary may, in itself, be an improvement over the current system. He argues that freedom of growth is impossible without intrinsic motivation and that such motivation is stifled by forcing students to attend school. Goodman points to schools like Summerhill (modeled on A. S. Neill's theories), where the voluntary nature of the schools may tempt students to skip school but where their natural curiosity will draw them back to school, now eager to learn.

Alternatives to compulsory education need not be limited to schooling of the bricks and mortar variety. Goodman, as an inhabitant of New York City, found the city itself to be highly educative and thought that limiting education to the inside of four walls meant the loss of numerous educational opportunities. Teachers could simply walk students around the city where architecture, city planning, city history, factory production, and so on could be discussed in their natural environment. In a similar vein, Goodman also proposed (modeling off the GI Bill) giving the money that would have gone into the school system directly to students, who could use it for the educational purpose of their choice, which could include travel, scientific projects, or participation in experimental schools.

Anthony Giambusso

See also Alienation; Neill, A. S., and Summerhill; Youth Culture, Theories of

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Great Books

See Essentialism, Perennialism, and the "Isms" Approach

Greene, Maxine

The educational philosopher Maxine Greene (1917–) has spent her long, full life defying categorization and evading labels. At the risk of "boxing her in," it is safe to say that she is known primarily for her work in existential philosophy and aesthetics education. In fact, she was one of the earliest philosophers of education to devote a full book to the relationship between existential themes and educational theory/practice. Her volume *Existential Encounters for Teachers*, published in 1967 when she was an associate professor at Teachers College (TC), Columbia University, and editor of *Teachers College Record*, broke new ground, in both its content and its form. In this work, Greene introduces the teacher to the complexity of her role in the modern world through encounters with the writings of 19th- and 20th-century existential philosophers. Organized around themes of "The Individual," "Others," "Knowing," "Choosing," and "Situations," these encounters provoke the teacher to think more deeply about her particular identity and situatedness, about her responsibility to be authentic with her students, and about her possibilities for choosing for herself and for acting in the world. These themes have continued to inform Greene's work and life in profound ways for the past half-century.

Greene's own situation in the early 1960s as a young, Jewish, middle-class, intellectual female shaped and was shaped by her choices as she found her way in academia. Not unlike other women of her generation, gender bias and institutional sexism were her uninvited companions as she made

career decisions—including her choice of a PhD program. As she recounts in the video documentary *Exclusions and Awakenings: The Life of Maxine Greene* (Hancock, 2001), Greene needed to select a graduate program that would allow her to take classes while her young daughter, Linda, was in school. New York University's School of Education had the day schedule that she needed. It was at New York University that Greene studied the philosophy of education with George Axtelle, even though her major as an undergraduate at Barnard College was English and her aspiration was to write novels.

After completing her doctorate in 1955, Greene taught at Brooklyn College and Montclair State College in New Jersey prior to being hired by TC in 1965. TC has been her academic home since then, where she is now the William F. Russell Professor Emerita in the Foundations of Education. However, as Greene has noted, TC did not always feel like "home sweet home." As one of the first women of her generation to venture into the field of philosophy of education, Greene faced considerable resistance from her male colleagues. In fact, she came to TC, so to speak, through the back door—through the editorship of *Teachers College Record* and the English Department, *not* philosophy of education. Evidently, her work was considered "too literary" for the field, an interpretation that she saw as code for "too feminine." Within a few years, however, she proved herself worthy of an appointment in TC's Department of Philosophy and Social Sciences, where she continued to teach well beyond her retirement. In fact, she offered courses in her Fifth Avenue apartment as recently as 2012.

Theoretical Contributions

Existentialism, literature, and the arts are the threads connecting Greene's intellectual project. After publishing *Existential Encounters for Teachers*, Greene developed her existentially informed philosophy of education in her groundbreaking book *Teacher as Stranger: Educational Philosophy for the Modern Age*. In this volume, Greene (1973) challenges the teacher "to *do* [italics added] philosophy" (p. 6). For Greene, when one "does philosophy," one is enacting and embodying a critical consciousness that examines the world in which we live, including educational processes, practices, and institutions. Implicit in Greene's concept of critical existential philosophy, derived from the work of Jean-Paul Sartre, is the commitment "to go beyond the situations one confronts and refuse reality as given in the name of a reality to be produced" (p. 7).

Refusing, going beyond, seeking wide-awakeness, choosing, and becoming are theoretical concepts and *actions* that inform Greene's signature contribution to the field of educational philosophy. Her unique imprint comes from her literary ability to embody these abstract concepts through references to literature, film, and other art forms. Honoring existentialism as well as John Dewey's pragmatism, Greene makes it possible for practitioners to understand her ideas as she makes meaningful connections to their own lives in classrooms. In fact, Greene is known worldwide for her lectures that subsequently become published essays. She can speak to teachers about lofty ideas, yet because these are grounded in lived experience, especially the lived experience of teachers and their students, these ideas tend to resonate powerfully with educational professionals. For example, her 1978 collection of lectures given between 1974 and 1977, *Landscapes of Learning*, addresses the concepts of *rationality*, *freedom*, *consciousness*, *wide-awakeness*, *praxis*, and *aesthetics* as they affect education and schooling. They are as relevant and accessible today, in the age of "No Child Left Behind" and "Race to the Top," as they were four decades ago when the back-to-basics movement dominated educational discourse.

One of Greene's most comprehensive books, *The Dialectic of Freedom* (1988), was an expansion of that year's John Dewey Lecture, presented at the meeting of the American Educational Research Association in New Orleans in April and, later that year, at TC. This book demonstrates Greene's intellectual reach as she brings into a coherent whole her mastery of critical, existential, and pragmatic philosophy together with history, multiculturalism, and the arts to show the complexities and contradictions of the American (educational) experience. Indebted to Dewey for an analysis of democracy and freedom, and for his commitment to the public good, Greene tells the stories of those who were thrust into the "underside of democracy." Her use of literature, film, and poetry to evoke the experiences of newcomers, freed slaves, and women is meant to show us the possibilities for freedom and community in a multicultural democracy.

Greene's work with the arts and education will perhaps be her most sustainable legacy. As the philosopher in residence for the Lincoln Center for the

Arts in Education for more than 30 years, Greene has offered public school teachers the educational and aesthetic theory, the artistic vocabulary, and the pedagogical skills to integrate meaningfully a range of cultural experiences in their classrooms. Greene's lectures and essays on education, the arts, and the social imagination have been collected in the volumes *Releasing the Imagination* (1995) and *Variations on a Blue Guitar* (2001).

It is her understanding and enactment of the *social* imagination that distinguishes her work from more traditional approaches to integrating the arts in education. For Greene (2001), the imagination can—and must—be employed in and for social contexts to "look at things as if they could be otherwise" (p. 122). Greene offers an invitation to *wide-awakeness*, to taking actions in situations that need changing. Hers is a philosophy of education intended for transformation—of our consciousness, our classrooms, and our communities. Her method of integrating the arts provides the openings and creates the spaces for *reimagining* the world without relying on dogmatic political ideologies or cultural stereotypes. Never too far from her roots in existentialism, Greene's work continues the search for meaning—for ways to connect our individual situatedness with and for the common good.

Wendy Kohli

See also Aesthetic Education; Critical Theory; Dewey, John; Educational Theory, Nature of; Phenomenology; Sartre, Jean-Paul

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H

Habermas, Jürgen

See Critical Theory

Habits

The notion of habit has had its ups and downs in the social sciences over the past 150 years. Its use as a key concept dates as far back as Aristotle, who connected it with education. In this entry, a definition of habit is offered, and its cultural mode of acquisition or inheritance is explained and contrasted with biologically inherited instincts. It is proposed that all reason depends on habit; and furthermore, it is a key component of some prominent definitions of culture. The concept is also important from an evolutionary perspective, for overcoming mind–body dualism and dealing with the agency–structure problem in social theory. Thus, the concept has great importance for social science and educational research.

The Concept of Habit

In *The Politics*, Aristotle wrote, "But in fact men are good and virtuous because of three things. These are nature, habit or training, reason." He continued, "education by habit-forming must precede education by reasoned instruction" (Book VII, chap. 13). Aristotle also noted pertinently in his *Metaphysics* that the word *habit* had two meanings: '"Habit' means a kind of activity" but in "another sense . . . 'habit' means a disposition" (Book V, chap. 20).

Confusion between the two meanings (behavior or disposition) persists today. Here, habit is defined as a culturally inherited disposition to engage in previously adopted or acquired behavior (including patterns of thought) that is triggered by an appropriate stimulus. It is "a more or less self-actuating disposition or tendency to engage in a previously adopted or acquired form of action" (Camic, 1986, p. 1044).

Habits are formed through repetition of action or thought. They are influenced by prior activity and have durable, self-sustaining qualities. Habits are the basis of both reflective and nonreflective behavior. They are economizers of scarce mental resources. If we had to deliberate fully on everything, then our reasoning would be paralyzed by the weight of data. Habits overcome this problem.

The concept of habit as a disposition was developed by a linked group of American pragmatist thinkers in philosophy, psychology, and economics. Among them, William James (1893) proclaimed, "Habit is thus the enormous fly-wheel of society, its most precious conservative agent" (p. 143). The institutional economist Thorstein Veblen (1898) wrote of "a coherent structure of propensities and habits which seeks realization and expression in an unfolding activity" (p. 390). As John Dewey (1922) put it, "The essence of habit is an acquired predisposition to *ways* or modes of response" (p. 42). A similar interpretation of habit as a disposition is found in the work of contemporary psychologists (Wood & Neal, 2007; Wood, Quinn, & Kashy, 2002).

Instinct, Habit, and Reason

By contrast, instincts are biologically inherited reflexes, feelings, or dispositions that can be triggered by specific cues. But (like habits) expressions of instincts can often be suppressed or diverted. There is clear evidence for some human instincts, such as reflexes in babies to clutch and suckle. It is beside the point to argue that acquired habit or socialization is much more important than instinct. But the importance of socialization does not deny the necessary role of instinct. Instincts are necessary for socialization to begin its work.

Brain imaging studies on human subjects show that the formation of habits involves a shift away from parts of the brain associated with conscious, declarative memory and goal setting (the medial temporal lobe and prefrontal cortex) toward areas associated with procedural memory and context-triggered responses (the basal ganglia).

Habits are vital to all thought and behavior. Rational deliberation relies on habits. In turn, instinct is prior to habit, habit is prior to belief, and belief is prior to reason. That is the order in which they have evolved in our human ancestry over millions of years. That too is the order in which they appear in the ontogenetic development of each human individual. That too is the order in which they are arranged in a hierarchy of functional dependence, where the operation of reason depends on belief, belief depends on habit, and habit depends on instinct. The lower elements are necessary but not sufficient for the higher.

As Charles Darwin noted, human rational capacities are built on subconscious mechanisms inherited from our prehuman ancestors. We retain instincts and unconscious mental processes that can function apart from our conscious reasoning. As some animal species developed more complex instincts, they eventually acquired the capacity to register reinforced behaviors through the evolution of mechanisms of habituation. In turn, on these mechanisms, humans built culture and language. Our layered mind, with its unconscious lower strata, maps our long evolution from less deliberative organisms. But when the human species evolved its capacity to reason, its dependence on instinct and habit did not decline.

Evolutionary Versus Mind-First Explanations

Much social science takes it for granted, or as true by definition, that "action" is motivated exclusively by reasons based on beliefs. This proposition is undermined by modern psychology as well as the evolutionary outlook offered by Darwinism. As noted by Benjamin Libet, experiments since the 1970s show that conscious sensations are reported about half a second after neural events, and unconscious brain processes are discernible before any conscious decision to act. This evidence suggests that our dispositions are triggered before our actions are rationalized: We contrive reasons for actions already under way. This apparently undermines explanations of human action wholly in the terms of reasons and beliefs.

But the folk psychology (Stich, 1983) that beliefs are the source of intentions, choices, and actions still dominates social science. These "mind-first" explanations of human behavior are unable to explain adequately phenomena such as sleep, memory, learning, mental illness, or the effects of chemicals or drugs on our perceptions or actions. Mind-first conceptions erect an unsustainable dualism or discontinuity between the mental and physical worlds, which is inconsistent with the fact of human evolution. Humans do act for reasons. But reasons and beliefs themselves are caused and have to be explained.

The habit-based perspective implies neither stasis nor lack of choice. As Dewey (1922) explained clearly, because of our engagement with diverse and changing contexts, we develop different habits of thought and action that sometimes come into conflict with one another. Such conflicts are opportunities for choice and change. Habit does not deny choice. On the contrary, the conflicting rigidities of different habits make choice inevitable.

Pragmatist and habit-based approaches overcome the Cartesian dualism of body and mind, which still pervades the social sciences. Intellect is not regarded as an independent and ungrounded causal power but as an emergent and active property of already-engaged dispositions and unfolding actions. The reality and importance of human intentionality and creativity is reconciled with the Darwinian evolutionary legacy and a philosophy of emergentist materialism (Bunge, 1980).

Conclusion

Once habit is seen as the foundation of preferences or beliefs, we can develop an enriched understanding of the interaction between individuals and institutions. Emergent institutions guide individual behavior. Individuals develop and reinforce habits consistent

with that behavior on which revised beliefs and preferences transpire. These revised beliefs or preferences lead to further actions and form more habits, which may affect institutions, and so on. This gives us two-way mechanisms of reconstitutive interaction from individuals to institutions and back to individuals.

The implications for social theory are profound, including a transcendence of the old debate between "bottom up" (methodological individualist) and "top down" (methodological collectivist) modes of explanation. In a full-fledged evolutionary view, causal influences have to be acknowledged in both directions. From an adequate evolutionary perspective, we have to understand how individuals are affected by social structures, as well as how structures are constituted by individuals. Habit is a crucial mechanism in both cases.

Geoffrey M. Hodgson

See also Dewey, John; Evolution and Educational Psychology; James, William

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Happiness

What is happiness and why does it matter? What is the relationship between happiness and education? Should happiness be seen as a key educational aim, as some philosophers, teachers, and policymakers suggest? These questions are at the fore not only of much of philosophy and educational policy and practice but also of psychology, economics, sociology, neuroscience, and other domains. To resolve them may seem like an impossible task. "There is hardly a muddier concept [happiness] in the over 2000-year history of philosophy," says Kristjansson (2010, p. 300); Bruckner describes happiness as "an enigma, a permanent source of debates, a fluid that can take every form but which no form exhausts" (2010, p. 3). Watery metaphors abound, but progress can be made by reflecting on what happiness means to us as human beings and by clarifying basic concepts. This entry discusses various concepts of happiness, including the utilitarian concept of pleasure, the Aristotelian concept of flourishing or a good life, and the contemporary eudaimonic approaches. It then considers how a theory of happiness shapes our understanding of the goals and aims of education.

Two Concepts of Happiness

It is useful to start with the "original" concept. Children learn that happiness is an enjoyable experience that they want to prolong. It is contrasted with unhappiness, an experience they want to avoid, and subjective reports on both are normally taken seriously. If a child is lucky, her happiness is treated as a reason for action, though regrettably not (in all probability) an overriding one. In short, the original concept of happiness is hedonistic, polarized, subjective, and motivational. This concept underpins Jeremy Bentham's utilitarianism (1789), which sees happiness as pleasure, unhappiness as pain, and claims that these govern us in all we "do, say and think."

The original concept, often expressed as *feeling happy*, differs from the sense in which we say someone *is a happy person* or has *led a happy life*. The latter was important to ancient philosophers,

and Seneca (1932) expressed the problem well: "To live happily . . . is the desire of all people, but their minds are blinded to a clear vision of just what it is that makes a life happy" (p. 99). Happiness in this sense is something about which we learn by reflecting on our lives, our errors, and the limitations of the original concept. It is linked to Plato's idea of the examined life, and many philosophers (and more recently, positive psychologists) turn to Aristotle for guidance about its meaning.

The Aims of Education

According to Aristotle, eudaimonia (translated as happiness, well-being, flourishing, and a good life) is the ultimate end toward which we aim in whatever we do. In current idiom, it is a *thin specification* of this end, for its meaning is disputed. We generally agree that it is the most important thing in life; the philosophical task is to specify its meaning without, as Aristotle said, seeking more precision than "the subject matter admits of."

Aristotle is an objectivist; he never questions the scope for error in our thoughts about happiness. To thicken its specification is a task requiring reflective discipline, and Aristotle believed that "many" (the uneducated, the wicked, and the young) mistakenly characterize it as pleasure, honor, or wealth. The "wise" by contrast concur in the view that happiness means living and faring well. Living well means developing our distinctively human capacity for reason in moral and intellectual spheres; we cannot be happy without being virtuous or good. Thus, it would be wrong to infer (moving from the subjective to the objective perspective) that someone who gets away with her misdeeds and *feels* happy much of the time is a happy person.

There are no happy tyrants, on this view. Many people, preferring a subjective approach, would disagree, and here is a rich area of philosophical debate to which literature as well as argument may contribute much (Cigman, 2014). Most people nowadays also reject Aristotle's suggestion that happiness belongs within the framework of a complete life "or even beyond." Aristotle quotes Solon's "Call no man happy until he is dead" approvingly and adds (remarkably) that if misfortune befalls one's descendants after one's death, this will detract from the goodness of one's life as a whole. We may resist this thought, but the idea of embedding happiness in years or even decades, rather than moments or other brief periods, makes a certain sense.

We generally agree with Aristotle that a prerequisite of happiness is faring well. He sounds a note of realism (absent from the views of Plato and the Stoics) when he insists that the enjoyment of certain goods—reasonable health, modest wealth, and an adequate moral and general education—is important. Aristotle also resonates with modern intuitions by finding a role for happy *feelings* in the good life. The virtuous person, he says, takes pleasure in doing the right thing; although it is hard to be good, it is satisfying. This reinforces the idea (appealing to educators) that living virtuously is an aspect of living well.

This much seems clear: If happiness is to be an aim of education, we need a conception that is enriched by reflection and embedded in extended periods of time, if not an entire life. We want more for children than happy feelings and happy moments. Progressive educators such as A. S. Neill may have relied too heavily on the original concept, taking their cue from experiences that children enjoy and want to prolong and seeing these (too "precisely," in Aristotle's terms) as educationally motivational. Some philosophers of education have challenged these ideas; R. F. Dearden (1972/2010) argued that the "springs of action may be more complicated than a happiness-doctrine suspects" and "even anxiety can be facilitatory" (p. 82). Many teachers and parents would agree on this.

Scientific Approaches to Happiness

By identifying happy feelings as our governors in all we "do, say and think," and by introducing the idea of a "felicific calculus" that measures their intensity, duration, and other properties, Bentham provided a foundation for a psychology of happiness that many deem suitable for a scientific age (see Layard, 2005). The psychologist Daniel Kahneman's hedonic approach computes happiness in the Benthamite manner from a "dense record" of self-reported pleasurable and unpleasurable states. Positive psychology refines this, adding "life satisfaction" assessments and producing a composite conception of happiness (positive affect and life satisfaction) as subjective well-being. More recently, it has added a eudaimonic dimension, reflected in the title of Martin Seligman's 2011 book *Flourish*. Flourishing is Aristotle's objectivist concept, referring to the fulfillment of natural capacities. Human flourishing, unlike that of a tree or dog, involves virtue, and positive psychologists claim that they can measure this. *Can* virtue be measured? It is a

controversial question on which many philosophers have expressed doubts.

Subjective and objective approaches to happiness have been amply criticized. Few nowadays see happiness as synonymous with pleasure, for a life that ranks highly on a hedonic scale may be utterly pointless. Robert Nozick's "experience machine" thought experiment highlights the undesirability of a condition in which neurological stimulation (the notorious "brain in a vat") might create the *illusion* of a flourishing life. Few would be tempted by the prospect of limitless pleasure if the distinction between reality and illusion were entirely lost. Life satisfaction seems closer to what we mean when we call people happy, until we reflect that some are satisfied with limited or impoverished lives because they are ignorant, self-effacing, or oppressed. Eudaimonic accounts appear to resolve these difficulties, but many regard the idea of *contesting* a person's subjective sense of happiness, on the authority of science or philosophy, as unacceptably paternalistic.

Eudaimonic accounts have, at least, this to recommend them: They recognize that not all kinds of happiness are equally worth having. Criticizing Bentham, J. S. Mill insisted on this point when he argued that some pleasures are "higher" than others. It is better to be Socrates dissatisfied, he said, than a pig satisfied, as any competent judge who knows both will attest. This complicates the quantitative model, for "higher value" is hard, if not impossible, to compute.

Mill's competent judges are problematic. Any attempt to identify them would be infinitely regressive, and the elitist implications are offensive. This is, however, a pivotal moment for contemporary philosophizing about happiness. Like Aristotle, Mill understood that happy and unhappy feelings are not simply experienced; they are also evaluated, reflected on, and "learned about." Sometimes, as Friedrich Nietzsche emphasized, it is good to feel unhappy, and Peter Roberts (2012, p. 209) argues in this vein that suffering has "profound value for our development as human beings" and that education "should make us uncomfortable." If there are "higher pleasures," there are presumably "higher pains," and education could be a rich site for both.

Implications for Educational Theory and Practice

Education is an ethical practice, needing what Avishai Margalit (2002) calls a "literary picture": "We are the authors of our lives, and we had better make sure that they add up to something meaningful" (p. 134). It is arguable that recent educational policy has neglected this picture. The enhancement agenda (social and emotional learning, happiness lessons) tends to polarize positive and negative feelings, promoting the former and trying to inhibit the latter (Cigman, 2009). It asks "how children are" and returns gloomy statistical answers, aiming to reverse these through national interventions (Department for Education and Skills, 2005; Seligman, Randall, Gilham, Reivich, & Linkins, 2009). It is strongly influenced in the United Kingdom by Richard Layard's Benthamite philosophy; happiness ("feeling good"), says Layard, *can* and *should* be learned early in life. Pascal Bruckner (2010) describes this as a perversion of the Enlightenment's "beautiful idea: that everyone has the right to control his own destiny and to improve his own life" (p. 5). Is he right? Is there now a *duty* to be happy, intrusively pursued through education? Many believe this to be the case, and the need to reflect on such questions could not be clearer. Instead of drowning in watery metaphors, this entry aims to provide a rudimentary map.

Ruth Cigman

See also Aristotle; Mill, John Stuart; Neill, A. S., and Summerhill; Positive Psychology and Education

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Hegel, Georg Wilhelm Friedrich

Few thinkers in the history of Western philosophy are as important or as contested as G. W. F. Hegel (1770–1831). Slavoj Žižek has argued that there is a unique philosophical moment in the West in which philosophy first appears in-and-for-itself, or in which it rises to its own self-consciousness. This is delineated by Immanuel Kant's *Critique of Pure Reason* (1968) and Hegel's death (1831); philosophy before and after this, he says, is only preparation and interpretation, respectively. Hegel taught both in schools and in universities while writing his two great works, the *Phenomenology of Spirit* and the *Science of Logic*; many of his other books consist of lectures given at the University of Berlin between 1818 and 1831. The range of Hegel's work—across aesthetics, law, religion, the state, logic, epistemology, and metaphysics—and the abstract, difficult, and sometimes apparently paradoxical nature of his prose make conducting a short survey precarious.

Since his death, at least two schools of interpretation have sprung forth: *Right-wing Hegelianism* has followed through with Hegel's claim to have realized the absolute, or absolute truth, in the form of a broadly Christian philosophy; while *left-wing Hegelianism*, to which the young Karl Marx subscribed, absorbed Hegel's dialectical critique of modern civil or bourgeois society. Two French thinkers in particular, Alexandre Kojève and Jean Hyppolite, reintroduced the *Phenomenology* into the existential climate of France in the 1930s and beyond. Foucault, Deleuze, and Derrida, among others who were to be influential in the closing decades of the 20th century, were taught by Hyppolite.

Hegel and the End-of-History Thesis

One topic within educational theorizing above all others implicates Hegel as a theorist of a largely discredited notion of modernity. The now infamous "end of history" thesis, as discussed most recently by Francis Fukuyama, argues that Western liberal democracies are the endpoint to which history has always been leading. Fukuyama states that Kojève in particular claimed somewhat intransigently that history has ended, or is coming to an end, and that observing it is now clear that the future belongs not to the exploitative master in the world but to the working slave. Both Kojève and Fukuyama lean heavily on Hegel's idea of mutual recognition (from the *Phenomenology*), where all persons recognize themselves as identifying each other (such mutual recognition is seen by some to offer a model for the homogenization of human freedom across the world). Kojève also highlighted the seemingly counterintuitive claim, found in Hegel's analysis of the master–slave relationship in the *Phenomenology*, that the master is really the slave because of his dependence on the slave, and the slave is somehow a master because he is true to himself; the implication is that the slave is potentially freer than the master. In a world where masters and slaves remain, Hegel's study is still relevant, offering a powerful philosophical template for the critique of one-sided authority and power wherever it appears (including that between teacher and student).

The association of Hegel with the end-of-history thesis has encouraged many theorists in education and elsewhere to see Hegel as the archetypal modern, Western, White, male, rationalist representative of the imperialist view that "West is best." There is ample evidence in Hegel to support them, ranging from his work on the modern state, to his description of women as plants, and of Negroes as a race of children immersed in a state of uninterested naiveté. But as Hegel realized, those who condemn as an imperialist master any thinker who assumes a position of authority over those deemed less enlightened are repeating precisely that which is being condemned. It is also the case that Hegel understood his own complicity within the dominant social relations of 19th-century Europe, and he explicitly described not only how his own work carried the shape of those relations but also how his work would be interpreted as if it had overcome such complicity—which it had not.

The Dialectics and the *Aufhebung*

It is well known that at the heart of Hegel's philosophical system lies a triune model of human experience or consciousness. Ordinary consciousness accepts a taken-for-granted reality; dialectical consciousness questions and negates that reality; and

philosophical consciousness comprehends the whole of this experience. Few educators would want to oppose a critical consciousness. The controversy in Hegel then is the relationship between critical dialectical consciousness and philosophical consciousness. If dialectics negates our taken-for-granted view of the world, it can be destructive, even violent, for it pulls the rug out from under our feet. It robs us of the certainties which held our world together without seemingly putting anything back in their place. We are left looking down at a gaping abyss where the certainties of life have disappeared.

The key controversy in Hegel begins at this point. How, if at all, does he protect us from this abyss? Right-wing Hegelians call on the religious absolute, and left-wing Hegelians on the value of the critical consciousness in itself. But both camps need to engage with the Hegelian concept that addresses the abyss and which holds all of Hegel's philosophy together, namely, the *Aufhebung*. Seeking help in a dictionary here is not fruitful. The dictionary will tell us that the verb *aufheben* means to abolish, to raise up, and to preserve, while *Aufhebung* describes this process. But abolishing, raising up, and preserving seem to contradict one another. Understanding what Hegel makes of this contradiction is the most important step in appreciating his whole philosophy.

One can approach this issue in many ways, but here are two. First, when we learn something, it is said that we leave behind previous thinking and move on to new thoughts. The new thinking overcomes the old, and the new provisional truth overcomes the old defunct error. This assumption of overcoming error is carried in the idea of *enlightenment*. But overcoming error suggests that it does not also preserve error, and preservation is part of what the *Aufhebung* demands. It is in *philosophical experience as learning* that the *Aufhebung* carries all three meanings of abolish, raise up, and preserve. This is because learning about philosophical experience as an experience of philosophical learning has a unique significance. When learning learns about itself—something Aristotle ruled out in the *Metaphysics*—it overcomes itself and preserves itself. Learning changes and remains itself in doing so. Understood in this way, the *Aufhebung* is fundamentally an educational concept, and it announces Hegel's philosophy as a distinctive, seminal modern philosophy of education.

Second, one might agree that the *Aufhebung* is a continuing experience of learning but still question how Hegel would describe *Aufhebung* as in any sense *absolute*. What we have to realize is that Hegel is trying to reeducate us about how we should understand the very idea of truth. Following Socrates's lead more than 2,000 years earlier, Hegel holds that contradiction—for example, that between abolishing and preserving—far from being a sign of error, is really a sign of truth. This is where analytical philosophy and Continental philosophy part company. Analytical philosophy regards contradiction as indicating error, whereas Hegel finds contradiction to be truthful when it reflects the difficult relationship that thoughts have to their objects. This is what makes Hegel so difficult to read, because his logic is deliberately contradictory; but at the same time, it is absolutely rigorously contradictory—contradiction is the rational and spiritual basis of his whole science of logic.

To put this in another way, for Hegel, thought cannot understand the concept of truth without thought getting in the way, or in Hegelian language, thought inescapably *mediates* everything it thinks, including truth. Here, reason threatens to slide down the slope of infinite regress, unable to resist mediation ad infinitum; this leaves us with something similar to what Max Horkheimer and Theodor Adorno called the *dialectic of enlightenment*. So the crucial question here is this: Does mediation mean that thought prevents us from ever knowing the truth, or does it make it possible? More philosophically, is there truth in itself, or is truth in itself always unavoidably just truth for us who think about it? More colloquially, is truth objective or subjective?

Hegel's answer to this question is as simple as it is powerful and can be illustrated with the following example. Allan Bloom said in 1987 that the one thing every university tutor could be sure of was that most students will believe that truth is relative and not absolute. Absolutism is a dogma with colonialist, imperialist, gendered, racist, and much other cultural baggage. One should not force one's truth down someone else's throat. Indeed, Hegel says as much in the shorter *Logic* (§23), stating that no one can think for another person any more than one can eat or drink for another. Hegel's response to this challenge of absolutism is direct. How does a student know so much about what truth is, to be able to know so definitively what it is not? To say that mediation is *not* true involves the prejudgment that one knows what truth is. So does this leave one with or without truth? Here, Hegel asks only for integrity in the face of the dilemma. If negation (or mediation) is ubiquitous and unavoidable, if it is universal,

then perhaps this makes a better claim for truth than any of one's presuppositions about what truth is or is not. The upshot is that for Hegel, universality lies in the thinking, or mediation, of truth.

But even if this is so, what difference does this really make to life as we live it? Is such thinking not exactly the kind of scholastic rarefied knowledge that the humanists so lamented in the Renaissance? How can one bring such philosophy down to earth? For Hegel, the problem is the opposite. In the *Phenomenology* (§8), he suggests that there was a time when the gaze of the Western individual needed to be brought down to earth, but presently, the need is the opposite: to raise our impoverished spirit back to something more than the worldly things that demand our attention. Few Western philosophers have put the truth of such a difficult education so firmly at the center of their whole philosophy as Hegel has done.

Influence on Education Theory

How is Hegel currently shaping educational debates? Much recent educational theory is "post-foundational." This means that it holds to a pluralism of values and truths above any dogmatic claims for grand narratives or overarching ideas that are timeless and universal. This perspective tends to see Hegel as representing totality and absolutism over openness and relativity. A notable exception is the reading given by Žižek, which finds Hegel never closing down or resolving thinking in anything that could be final. Indeed, Žižek's Hegel holds that even the self is never transparent to itself and always evades capture by the understanding. For Žižek (and for the author of this entry), the postfoundational readings that see totalitarianism in Hegel fail to take account of the contingency—the lack of ground—that Hegel understands he is condemned to work with by the times in which he lived and in particular by dominant social relations. It is the case that in Hegel, the absolute is always trying to reeducate us philosophically about the subjective nature of absolute truth and the absolute nature of subjective truth, a contradiction which Hegel and the absolute refuse to abandon.

Educational theory that is broadly Marxist, including the Frankfurt School of Critical Theory, has largely ignored the significance of the Hegelian absolute for fear of being associated with the right-wing Hegelianism of absolute spirit. At best, they are content to decapitate the absolute or the *Aufhebung* from the dialectic, and while this leaves a very powerful tool for social and political critique, from Hegel's point of view, it treats as optional the significance that dialectical thinking has for itself.

In addition, Hegel's philosophy gets mentioned in relation to the educational theory of *Bildung*, but often only one sidedly. It is true that Hegel saw *Bildung* as an education for learning the value of service to the objective spirit of the state. But the key here again is what is meant by learning. *Bildung* in Hegel is the representation of philosophical learning as a "culture." Culture in Hegel is the sphere of everyday life where we live out the many different ways in which we are exposed to the contradictions of the *Aufhebung*; for example, where openness opposes absolutism, where the subjective opposes the objective, or where man contradicts God. Everything that involves a human being trying to represent himself or herself within or without truth is a culture; and it is a culture, in Hegel's sense, precisely because this is the site of the contestation between truth and nontruth. Hegel's notion of culture offers educational thinkers and practitioners a concept of their own work, their own struggles, difficulties, and contradictions, as the lived truth of their own learning.

What of the future for Hegelian philosophy and educational theory and practice? Žižek has argued that Hegel, as the philosopher of modernity, remains the most relevant thinker in responding to the troubled times afflicting modern Western-style capitalism on a global scale. But seeking a return to Hegel here is ambiguous because in effect modernity has never left Hegel. His philosophy remains the template for trying to grapple with its contradictions. The many still-influential standpoints of postfoundationalism show signs of their own exhaustion; in feminism and in postcolonial studies, the dialectic of enlightenment is emerging in which the champions of the oppressed are gloomily forced to account for the mastery of their own standpoint. Here is the culture of the post-men and post-women; a culture that is already Hegelian. There is no telling how this dialectic of enlightenment will be comprehended within the cultures of cultural studies, but Hegel stands ready to help in comprehending these unavoidable aporias (puzzles that lead to incompatible or conflicting resolutions) as philosophical experiences of human learning. If such truthful learning is comprehended as an end in and for itself, so be it. If not, culture will continue to eschew its own educational significance.

Hegel will also continue to haunt discussions about God and freedom. Just as God returned to Zarathustra in Book IV of Nietzsche's tale, so God returns to modernity in the broken freedoms of Western society. One of Hegel's most challenging thoughts is that the idea of God and the idea of freedom share the same origin in social relations. Religion in Hegel is the way people represent to themselves their lack of freedom. So the Christian God is the representation of one's subjectivity in relation to the universal, reflecting the lack of unity between them and the obstacles to any mending of this brokenness.

Finally, there remains the thorny issue in Hegel of world spirit. Since the Stoics in antiquity, the idea of cosmopolitanism has held the imagination of many thinkers—of a world which is united, embracing fundamental human principles of justice and peace. But such a vision has itself been criticized as a form of imperialism, in that cosmopolitanism is really only Western ideals pushed across the globe. Hegel's notion of world spirit is seen by some to be the most pernicious example of this imperialism. It *is* the case that global capitalism has produced a world spirit—but reading Hegel carefully can open up, not close down, ways of criticizing just this kind of imperialism.

As long as modern educational theory is shaped by the social relations of private property, Hegel's critique of the universality of such relations, and of the complicity of life and thought within them, will continue to be relevant and vital.

Nigel Tubbs

See also *Bildung*; Critical Theory; Dewey, John; Foucault, Michel; Marx, Karl

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Heidegger, Martin

Martin Heidegger (1889–1976), a German philosopher, is best known for his writings on phenomenological ontology, which provided a revolutionary account of human existence and the history of metaphysics, which he provocatively called "the history that we are." Even though Heidegger never formally developed a philosophy of education, it is not wrong to say that he had two of them. The first relates to what I will refer to as "the task of selfhood," which Heidegger develops in his 1927 magnum opus *Being and Time*. The second relates to what this entry will refer to as "ontological education," which he develops in a variety of writings from his later philosophy, but especially in his 1940 essay "Plato's Doctrine of Truth" and his 1951–1952 lecture course *What Is Called Thinking?* In both cases, Heidegger understands education to involve (1) turning away from the everyday world, (2) undergoing a transformative experience of liberation and self-recovery, and (3) returning reflexively to the everyday (one's projects, roles, and the entities of one's environment) with a new understanding of oneself and one's world.

Genuine education for Heidegger (1998c) is always emancipatory. As he says in his famous essay on Plato's cave allegory, "Real education lays hold of the soul itself and transforms it in its entirety by first of all leading us to the place of our essential Being and accustoming us to it" (p. 167). This transformative return to the self, in both of Heidegger's philosophies of education, involves the liberation of oneself

from forces of resistance. In the task of selfhood, resistance comes from "the they" (*das Man*), which encourages conformity and discourages individuality. And in ontological education, resistance comes from the metaphysics of one's age, which shapes our thinking so profoundly that we cannot help but see everything, ourselves included, as resources awaiting optimization. We see nature, for example, as little more than "a giant gasoline station" (Heidegger, 1966, p. 50).

The task of selfhood in *Being and Time* is designed to awaken us from the tranquil but inauthentic lives we lead under the influence of *das Man* and to reconnect us to the everyday world of our concerns with a new appreciation for our freedom and a resolute acceptance of the existential responsibility it entails. This kind of education reacquaints us with ourselves as finite, self-creating beings. In contrast, the purpose of ontological education in Heidegger's later writings is to help us leap over the wall of metaphysics and overcome nihilism. This second kind of education reacquaints us with ourselves as world-disclosing beings and accustoms us to a world that is conceptually inexhaustible, fundamentally mysterious, and aglow with "divine radiance." Ontological education, then, like the task of selfhood, culminates in an enlightened recovery of one's Being and the Being of the world. Its aim is nothing less than the reenchantment of the earth.

The purpose of this entry is to explain the details of these separate but related ideas about the essence of education.

The Task of Selfhood

Heidegger's philosophy of education in *Being and Time* is best understood as a special kind of philosophical perfectionism, the conceptual foundations of which derive from Aristotle. In *Being and Time*, Heidegger provides an account of (a) what makes human beings distinctive among beings, (b) what it means for humans to flourish, and (c) how human flourishing, what Aristotle called *eudaimonia*, is a product of becoming what one is in spite of the contrary education one receives from *das Man*.

What makes us distinctive, Heidegger (1962) says, is that our Being is an issue for us. "*Dasein* [the human being] is ontically distinctive in that it *is* ontological" (p. 32). We are unique among beings because we have an understanding of being, and because, for us, Being is an issue. It is both (a) a constant source of wonder—we ask why there is anything at all instead of nothing—and (b) a task—being human requires that each one of us makes self-creating choices. For Heidegger, we *are* what we choose. We don't just exist, like rocks and plants; we aren't simply given an essence. We are choosing beings, stretched through time, open to a past and a future, and always faced with the task of selfhood. Who we are is who we are not yet (p. 287). "The most primordial and ultimately positive way in which Dasein is characterized ontologically" (p. 183) is as "being-possible" (*Möglichsein*).

This is what Heidegger means when he says we *are* ontological. We don't exclusively understand Being from the theoretical point of view, as the philosophical tradition has always supposed. We also *embody* an understanding of Being and literally live answers to our questions about the sorts of people we ought to be. Sometimes, we live those answers consciously and deliberately; other times—more often, Heidegger would say—we make world-shaping, self-creating choices without thinking freely about our possibilities and taking ownership of ourselves. To be human is to take a stance on who and what we are (Am I a teacher or a lawyer, a husband or a single man?) and to be defined and shaped by that stance. The key question is whether (a) we define ourselves consciously, deliberately, and with a passionate commitment rooted in a profound confrontation with our mortality, or (b) we are simply doing what one does and, as if sedated, going with the flow of life: believing what "they" believe, living as "they" live, and valuing what "they" value.

Two pieces of Heidegger's philosophical perfectionism should be relatively clear at this point. First, we are ontically distinctive because we are ontological: For us, Being is a task that involves choices, as well as a source of wonder that demands reflection. Second, we can make our self-creating choices consciously or unconsciously. If we make them unconsciously and live according to ideas that are not our own, we fail to become authentic selves. We don't really take up the task of selfhood but, instead, flee from it. Heidegger (1962) calls this kind of failure "falling" (p. 219), and he suggests that it characterizes most of us most of the time: "Everyone is the other, and no one is himself" (p. 165). On the other hand, if we choose consciously between the possibilities open to us, and independently of the tyranny of custom, we can complete the task of selfhood and fully become what we are. Heidegger calls this relationship with our possibilities authenticity, and he intends for us to see that it is the *practical* fulfillment of our being.

Aristotle's moral perfectionism tells us that human beings are distinctive because they are rational and that flourishing consists in reasoning well, especially in the context of theory (*Nichomachean Ethics*, Book I, chap. 8). Heidegger's (1962) development of this idea is to say that we are distinctive theoretically *and* practically. On the one hand, he agrees that human beings are perfected, or fulfilled as what we are, through philosophy (pp. 33, 96). But on the other hand, we are also fulfilled practically, that is, through a kind of choice making that is done in the light of death, and done resolutely. "Dasein becomes 'essentially' Dasein in that authentic existence which constitutes itself as anticipatory resoluteness" (p. 370). Anything short of authenticity, on this view, is a failure to flourish because it doesn't involve making free choices or overcoming "the dictatorship of the one [*das Man*]" (p. 165).

For Aristotle, human flourishing is characterized by reasoning well. For Heidegger, human flourishing is partly constituted by completing the task of selfhood in light of one's mortality. Death makes us anxious, and anxiety (*Angst*) is transformative and liberating because it is illuminating. In *Being and Time*, Heidegger is careful to distinguish *Angst*, which is about the burden of living a human life, from the kind of anxiety that we feel over an upcoming test or a difficult conversation. *Angst* is more rare and more profound than these everyday forms of anxiety. We feel it when our worlds collapse, that is, when our projects and roles—all of the things that shape our identities—no longer seem to matter. In these moments, it is as if the ground has dropped out from beneath our feet. The world we had taken for granted, the world of our everyday concerns, slips away from us. Suddenly, the familiar seems unfamiliar, and the ordinary feels uncanny.

In these moments, we continue to exist as "being possible." We go on projecting ourselves into an open future, but we project ourselves on a world and into an identity in which we no longer feel at home. Heidegger (1962) calls this experience "death" (p. 307), and he suggests that through it we encounter the structure of our being. We realize, in a practical way, that we are self-creating beings who enjoy meaning and value as a by-product of our choices, and in proportion to the passion we invest in them.

> With Dasein's lostness in the one . . . Dasein makes no choices, gets carried along by the nobody, and thus ensnares itself in inauthenticy. This process can be reversed only if Dasein specifically brings itself back from its lostness in the one. . . . When Dasein thus brings itself back from the one, the one-self is modified in an existential manner so that it becomes authentic being-one's-self. This must be accomplished by making up for not choosing. But "making up" for not choosing signifies choosing to make this choice, deciding for an ability-to-be, and making this decision from one's own self. In choosing to make this choice, Dasein *makes possible*, first and foremost, its authentic ability-to-be. (p. 312)

Death clarifies our lives for us, allowing us to distinguish between what is trivial and unimportant and what has lasting significance. We return to ourselves from *das Man* with a new appreciation for our freedom and a new ability to embrace and own the task of selfhood.

This experience of existential death and rebirth constitutes a form of education because it "lays hold of the soul itself and transforms it in its entirety by first of all leading us to the place of our essential Being and accustoming us to it" (Heidegger, 1998c, p. 167). In fact, it is hard to imagine how anything else could fit this description of "real education" (Heidegger, 1998c, p. 167) any better: We lose the world in death, rediscover ourselves in resoluteness, and then freely return to our projects with a new capacity for ownership of who and what we are. We are transformed in the process and led back to the place of our "essential being." We are led back to and given an opportunity to repossess ourselves.

Ontological Education

Heidegger's second philosophy of education also involves a transformative return to the self, although in a very different way from the task of selfhood in *Being and Time*. It is easiest to see this by thinking about Heidegger in connection with Nietzsche, who once said famously that the role of the philosopher is to be "a gadfly on the neck of man" and act as humanity's "physician." This medical metaphor applies to many of modernity's most influential thinkers—for example, G. W. F. Hegel and Karl Marx, Søren Kierkegaard and Friedrich Nietzsche, Rainer Maria Rilke, Sigmund Freud, Franz Kafka, and the Frankfurt school thinkers—who diagnosed the modern world with a cultural or spiritual "sickness" and presented their own philosophies as a corrective therapy. Heidegger's "later philosophy" can be understood as fitting into this tradition. Modernity, he says, is the age of the "world's night."

It is an era of destitution and decline. The function of his "ontological education" is to help us recognize the symptoms and causes of our condition and to provide us with a therapeutic philosophy that can heal us.

What is revolutionary about Heidegger's critique of modernity is the role he assigns to *metaphysics* in causing the most pressing problems of our time: "the loss of the gods" (the disenchantment of the earth), homelessness (the devaluation of the highest values), and the "violence" of modern technology (environmental degradation, factory farming, vulture capitalism, sweatshop labor, wars for oil, etc.). Heidegger explains these "symptoms" as products of our metaphysical thinking about Being, which mistakes *one* way of disclosing reality for *the* structure of reality itself, and so misses "the truth of Being." We will heal ourselves from the affliction of our age, Heidegger (2003) argues, only if we manage to overcome metaphysics (p. 67) and relate to our world and to ourselves without being blinded by the reifying categories of what he calls "ontotheology," which we experience as "enframing." But what exactly is ontotheology, and why is it a problem?

An ontotheology is any attempt to think about Being ontologically and theologically at the same time (Heidegger, 1998b, p. 340). We think about Being ontologically when we try to understand the most basic "stuff" that makes entities what they are. The pre-Socratic philosopher Thales (ca. 624 to ca. 546 BCE) thought it was Water. Plato thought it was Forms. Nietzsche thought it was the Will to Power. On the other hand, we think about Being theologically any time we try to understand reality from a God's eye point of view; that is, from what Thomas Nagel calls "a view from nowhere," so that we can grasp the structure of the whole and the way entities exist: how they are arranged with respect to each other, how they came to be, and whether they are organized by laws or purposes.

Anaximander (ca. 610 to ca. 546 BCE) was the first "theological" thinker, then, because he speculated that the universe was governed by a cycle of opposites. Plato's forms divided Being into degrees of reality, so that entities are more or less beautiful, more or less good, more or less just, etc. Aristotle's hylomorphism provided the West with its first robust ontotheology, which modern science has replaced with an ontotheology of its own, nonteleological naturalism, the details of which undergo periodic changes as science makes progress, but whose ontotheological structure is unchanging.

> Metaphysics represents the beingness of beings in a twofold manner: in the first place, the totality of beings as such with an eye to their most universal traits . . . but at the same time also the totality of beings as such. (Heidegger, 1998a, p. 287)

In passages like this, Heidegger wants to underscore that *as ontology* metaphysics asks what entities are in general and what entities share in common. And *as theology*, it attempts to identify and define the nature of the whole (for Hegel, God is the whole structure of beings, not an individual entity), which it sometimes, though certainly not always, considers divine (Nietzsche's atheistic "theology" is Eternal Recurrence). Ontotheology, then, is the interior structure of our theories about Being.

The problem with ontotheology is that Being is conceptually inexhaustible. It always exceeds the categories we use for understanding it, and so it is not reducible to the Being of entities. This means that *any* ontotheology, whether ancient or modern, is an incomplete and partial representation of Being, which is *both* what is revealed to us by our ontotheological categories and what is ineluctably concealed by them. In fact, any understanding of Being is incomplete and *incomplete-able*. And yet every ontotheology tries to provide closure on the question of Being, focusing exclusively on the Being of entities. Every ontotheology is therefore forgetful of Being as such. For example, as long as Being appears to us as an intelligently designed, good, and teleologically ordered creation of God, it is concealed as Eternally Recurring Will to Power, and vice versa. Even a metaphysical theory like Plato's, which posits a Good "beyond being," nevertheless treats the Good as a special kind of entity, and so remains ontotheological.

One might be tempted to think that this is all very academic and that it has no bearing on life as ordinary people live it. But Heidegger insists that ontotheology always *matters* because it "grounds an age" (Heidegger, 1993, p. 115) by serving as the "lenses" through which we understand the world and ourselves. In fact, we embody, individually and collectively, the understanding of Being articulated by the ontotheology of our time.

Our own age is nihilistic because our ontotheology (Heidegger thinks it is Nietzsche's picture of Being as Eternally Recurring Will to Power) has disenchanted the world and thereby reduced Being to "a vapor" (Heidegger, 2000, p. 42), the meaningless aggregation and disaggregation of forces. That is how we see the world, deep down. That is how *we*

understand Being. For evidence, Heidegger would simply have us look at the way we live, how we treat one another and ourselves, how we treat the earth, and how we think. We understand everything as lacking intrinsic value. For us, Being is a storehouse of resources, what Heidegger calls "standing reserve" (Heidegger, 1993, p. 23). The world revealed to us as mere resources is what Heidegger means by "enframing," and enframing (*das Gestell*) is the common thread linking the excesses of cosmetic surgery and the plundering of the earth, the neuropharmacology boom and the rise of vulture capitalism, etc. Each of these social and political problems has a common ontotheological root.

The purpose of ontological education is to enable a relationship with the world that happens outside the confines of ontotheological thinking. Heidegger's (1966) goal, in turning to art and poetry in his later philosophy, is to remove the "lenses" of ontotheology and replace them with a receptive openness to the forgotten but inexhaustible effulgence of Being. Heidegger calls this postmetaphysical relationship with the world "openness to the mystery" (pp. 12, 21, 55, 56, 92), and his hope is for us to relearn "to dwell" in the world and to cultivate an open relationship with Being, one that lets entities be what they are by constantly freeing them to be more than what they have been.

Like the task of selfhood in *Being and Time*, ontological education involves (a) turning away from the everyday world (in which entities show up as resources), (b) a transformative experience of liberation (from the reifying confines of ontotheology) and self-recovery (as beings who are in a dynamic, world-disclosing relationship with a mysterious, conceptually inexhaustible reality), and (c) a reflexive return to the everyday that is characterized by receptivity and openness to the unbidden rather than mastery and control.

Both in the task of selfhood and in ontological education, real learning occurs when the student returns to the place where she started and got to know it for the first time.

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See also Aristotle; Kant, Immanuel; Phenomenology; Technology and Society, Critiques of

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Herbart, Johann F.

Johann Friedrich Herbart (1776–1841), a German philosopher and a student of philosopher Johann Gottlieb Fichte, is considered a foundational figure in the history of educational philosophy. Over the past two centuries, since the time of his major work on education *The Science of Education* (*Allgemeine Pädagogik*; 1806), his thinking has had a profound influence on educational philosophy and educational reform worldwide. This entry thematizes three central components of Herbart's philosophy of education: his twofold concept of education and its connection to his practical philosophy; his concept of perfectibility; and his notion of pedagogical tact, especially as it relates to teacher education.

Concept of Education

Herbart's concept of education draws out the moral meaning of education. For Herbart, education aims toward the self-determination (*Selbstbestimmung*) of the learner. His notion of self-determination refers to the ability to critique one's own self-interested ideas and motives for action, as well as the values and norms that govern society. The concept of a person who is self-determined, or autonomous, is not to be conceived of as one who is individualistic and lacking a connection to the social world. Rather, self-determination for Herbart connects directly to one's ability to make moral judgments, judgments that reflect one's recognition of others. As Herbart (1804) puts it in his influential essay "The Aesthetic Revelation of the World," morality is not simply the highest but the *whole* purpose of education.

From a historical perspective, Herbart's concept of education opposed notions of education of the *ancien régime*, which assumes that the next generation's future is decided by the previous generation, that is, by tradition and socialization. On Herbart's model, it is not the role of education to guide learners into an existing moral order or make them dependent on external authority.

For Herbart, the categorical imperative formulated by Immanuel Kant (1724–1804) is central to understanding morality. The categorical imperative expresses a judgment of oneself according to principles of universality and humanity. It thus captures for Herbart what it means to judge oneself in light of one's recognition of and respect for others. But, going more in depth than Kant, Herbart asks the question of how the educator can help a learner learn how to make judgments for himself or herself about what is good and right to do in a given situation.

Herbart's answer to this question is not a learner-centered model, where the teacher is a mere observer, nor is it a teacher-centered transmission model. Rather, he develops a concept of education that accounts for a certain kind of intersubjective relationship between teacher and learner, which he sees as essential for cultivating the learner's ability to think, make independent judgments, and become what he terms a *multifaceted individual*. A multifaceted individual is someone who is interested in the differing perspectives, new ideas, and new objects that he or she encounters.

Herbart develops a twofold concept of what he calls "education proper" that outlines the educator's task in educating another person. The educator's task is defined using two terms: *educative instruction* and *moral guidance*. The first term, educative instruction (*erziehender Unterricht*), describes the educator's task in cultivating the learner's knowledge and ability. For Herbart, instruction has the aim of introducing learners to multifaceted forms of knowledge and human interaction, so that learners can understand differing perspectives and expand their interests beyond the confines of everyday life. Herbart thus conceptualizes the learner's path as a

series of stages according to the principles of a theory of association. In turn, the educator's task is to support the learner to steadily and continuously associate known objects with closely related new objects and then reflect on the process of making these new associations. Herbart's followers, the Herbartians, simplified and standardized this method of teaching, which came to be widely known outside of Germany, including in the United States, as the "Herbartian steps."

The second term, *moral guidance*, describes the educator's role in supporting the learner's moral development. Herbart's term for moral guidance is "*Zucht*," which comes from the German verb "*ziehen*," meaning *to pull forth*, and is associated with the latin "*educare*." Moral guidance should not be understood as discipline (even though the term *Zucht* is often translated as *discipline*). Although Herbart identifies a need for discipline (*Regierung*), he defines discipline as confined to the task of preventing the learner from harming himself or herself, or others. Thus, discipline is a precondition for, but not part of, education proper.

Moral guidance, for Herbart, describes a form of dialogic interaction with the learner to help him or her critically examine self-interested inclinations and judge these according to moral ideas. A central aim of such dialogue is to help the learner develop an "inner censor." The inner censor comes forth in moral dilemmas when we ask ourselves the question, What should I do? The inner censor can be construed as an individual's inner self-critical voice telling the individual what not to do, much like Socrates's *daemon*.

A key concept associated with how educators should cultivate a learner's inner censor is found in Herbart's notion of "inner struggle." Inner struggle arises when we attempt to confront past decisions and make changes in the way we think and act in the world. Herbart's notion of moral guidance underscores that the educator must not attempt to alleviate the learner's own inner struggle, for example, by telling him or her what to do. Rather, in his view, the educator must support learners to engage in inner struggle, question their past decisions, and inquire into how to make choices that respect others.

The aim of moral education is to develop a disposition in the learner to judge situations of action reflectively, not normatively. Herbart (1808) connects his theory of education directly to his ethics, expounded in his *General Practical Philosophy (Allgemeine Praktische Philosophy)*. Expanding on the idea of the Good Will expressed in Kant's categorical imperative, Herbart delineates five individual moral ideas to which he imparts specialized philosophical meanings: (1) *inner freedom* (*innere Freiheit*) captures the need for critique of one's will in all judgments of what to do; (2) *completeness* (*Vollkommenheit*) addresses the need to have differing perspectives to inform one's view; (3) *benevolence* (*Wohlwollen*) captures the need to express good will toward imagined others; (4) *right* (*Recht*) expresses the need to find agreements in cases of conflict with others; and (5) *justice* (*Billigkeit*) addresses the need to correct broken agreements and compensate those adversely affected. The moral ideas represent aesthetic relations of the will that are meant to orient one's view of oneself in relation to one's will, to objects, and to other human beings when making judgments about what to do.

For Herbart, educative instruction and moral education reciprocally support one another: Instruction helps the learner expand his or her view of the world with differing and conflicting perspectives, while moral education helps the learner learn to recognize wrong or bad decisions, decide which perspectives will guide his or her actions, and contribute to new ideas of the good.

Perfectibility

Herbart names the perfectibility (*Bildsamkeit*) of a human being as the founding principle of education. The term *perfectibility* is meant to capture the idea that all human beings are capable of being formed by the world and also of forming the world around them. Human perfectibility entails that human beings can be influenced by others and thus educated by others. For Herbart, the fact that human beings can change, engage in self-critique, and alter their directions of thought and action provides the basis for the human capacity to become moral individuals, that is, individuals who make choices that respect others.

Herbart's concept of perfectibility connects to the philosopher Jean-Jacques Rousseau's (1712–1778) idea of perfectibility (*perfectibilité*), which means the ability to learn. The notion Herbart develops also relates to the German idea of *Bildung*, often associated with the work of the philosopher Wilhelm von Humboldt (1767–1835). *Bildung* refers to a process of self-transformation through interactions with the world and others and is most often translated as "education" or "formation."

Herbart's concept of perfectibility has consequences for how we understand the task of the educator. The concept of the human being as changeable neither presupposes that the human being is a blank starting point (*pace* John Locke), nor does it entail that there is a predetermined final endpoint or *telos* to a human being's learning process. By grounding education in the principle of human perfectibility, Herbart makes clear that educators must recognize all human beings as capable of learning, transforming their view of the world, asking questions, and developing an inner censor. Moreover, it brings to the fore the fact that educators must recognize their ability to have an influence on a learner's future. It follows that educators must take responsibility to make conscious choices about how they will influence each learner, without seeking to predetermine the learner's future, a future that can only be decided by the learner. Herbart thus reminds educators that educating is a moral endeavor in which each learner must be given a broad, multifarious view of the world to be able to make decisions for themselves.

Tact and the Teaching Profession

Herbart gives significant thought to the teaching profession and the question of what is entailed in being a good teacher. He developed a concept of pedagogical tact that still has relevance for how we understand the teacher's task today. The concept of tact relates to Aristotle's notion of *phronesis* and can be understood as the teacher's ability to make wise decisions in the moment. According to Herbart, teachers must learn to be pedagogically tactful. This means they have to learn to have distance on educational situations with learners; be innovative and improvisatory on the basis of what the learner brings in terms of questions, understanding, and prior experience; and be able to reflect on and critique their own choices and change.

Herbart's concept of pedagogical tact is important for contemporary discussions of teaching. Tact in teaching, as Herbart develops it, gives a sense of teaching as something much more than a technical task of getting learners to particular outcomes. The concept of tact contributes to understanding teaching as a reflective practice. As such, it involves not only the ability to plan but also the ability to understand and judge what to do in unexpected situations that arise in interactions with learners.

Herbart's thoughts on education give us a vision of education as more than mere socialization. His work influenced American philosophers of education such as John Dewey (1859–1952), who was an active member of the National Herbart Society (which was formed around 1895 in the United States and was renamed the National Society for the Study of Education until it dissolved in 2008). Herbart's theories failed, however, to have a lasting effect in the United States, largely due to the late-19th-century movement called Herbartianism. The Herbartians simplified Herbart's theory of instruction into a rigid method of "steps" that involved teachers getting learners to fixed stages of learning. Although the Herbartians' interpretation of Herbart was limited, this is not to say that Herbart's theory of instruction is beyond reproach. One problem with Herbart's theory of instruction is recognized by Dewey in his *Democracy and Education* (1916). In this work, Dewey points out that Herbart's theory does not adequately take into account the new ideas that the learner brings to learning situations. But this critique only applies to Herbart's theory of cognitive learning, which views learning too strongly as a step-by-step progression toward knowledge that the teacher can regulate; it does not apply to his concept of moral guidance and moral learning.

The reception of Herbart as interpreted by the Herbartians has hindered the fruitful aspects of his work from being acknowledged, such that in the past century, very little has been written on Herbart in the English language. Herbart's concept of moral guidance has strong applicability for renewing our understanding of moral education today. Moral education in his view is not reducible to simple concepts of behavior management, such as seating charts or rules about acceptable behaviors, that we might find guiding teaching practice in today's classrooms. Herbart makes a significant point about moral learning, namely, that it is only through struggle and self-critique of self-interested inclinations that we learn how to make reflective judgments that respect others. Herbart's philosophy of education reminds us of the complexity of educating others, when this is seen as a process of supporting critical thinking.

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See also Autonomy; *Bildung*; Critical Thinking; Dewey, John; Kant, Immanuel; Moral Education; Phronesis (Practical Reason); Rousseau, Jean-Jacques; Teaching, Concept and Models of

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HERMENEUTICS

Hermeneutics—"a term whose Greek looks, theological past, and Herr Professor pretentiousness ought not put us off because, under the homelier and less fussy name of interpretation, it is what many of us at least have been talking all the time."

—Clifford Geertz, *Local Knowledge* (1983, p. 224)

Hermeneutics is the theory and philosophy of understanding and interpretation. The term derives from Hermes, a son of Zeus, who interprets messages from the Greek gods. Hermes was not simply a messenger, however. He was also a trickster. It was not always easy to determine which role Hermes was playing.

As Hermes's story suggests, understanding and interpretation can be fraught. In education, for example, students sometimes struggle to understand the meaning of texts. Teachers try to understand students' questions and may wonder about the meaning of teaching for their own lives. Educational researchers who use qualitative and quantitative methods make interpretive judgments (albeit for different reasons) and must determine whether their interpretations are defensible. Hermeneutic theory recognizes that interpretive challenges such as these can be analyzed from various perspectives that posit different assumptions about what interpretation entails and what the goals of interpretation should be. Becoming familiar with debates in hermeneutic theory can help us appreciate the interpretive complexities we encounter every day and permit us to become more thoughtful interpreters.

A key debate concerns how interpretation is defined. One definition frames interpretation in terms of epistemology (the philosophy of knowing and knowledge). From this perspective, interpretation is a method or cognitive strategy we employ to clarify or construct meaning. The goal is to produce valid understanding of meaningful "objects," such as texts, artifacts, spoken words, experiences, and intentions.

The second definition frames interpretation in terms of ontology (the philosophy of being and existence). In this view, interpretation is not an act of cognition, a special method, or a theory of knowledge. Interpretation, instead, characterizes how human beings naturally experience the world. Realized through our moods, concerns, self-understanding, and practical engagements with people and things we encounter in our sociohistorical contexts, interpretation is an unavoidable aspect of human existence.

The epistemological and ontological definitions of interpretation interact as sibling rivals. The hermeneutic "family split" arose more than a century ago when beliefs about the practice and aim of interpretation intersected with the success of physical science and the rise of social science. In the course of this entry, we will examine the German branch of the hermeneutic family tree beginning in the 19th century with Wilhelm Dilthey, who argued that interpretation is both (a) a method and a theory of

knowledge for the human sciences and (b) the prereflective mode of everyday lived experience. As will be shown, Dilthey could not reconcile his aspiration for an epistemology of interpretive social science with his realization that interpretation is an ontological feature of human experience that cannot easily be transformed into reflective scientific knowledge.

In the 20th century, Martin Heidegger argued that Dilthey was correct to intuit that "lived" understanding cannot be fully theorized or methodically regulated. Unlike Dilthey, however, Heidegger maintained that scientific knowledge *necessarily* remains indebted to lived understanding. We will explore why Heidegger argued for the primacy of lived understanding. We will also see how Hans-Georg Gadamer drew on Heidegger's hermeneutics to develop an ontological model of social science, which posits that interpretation in social science is no different from interpretation in ordinary life.

Gadamer's ideas have provoked a range of responses. We will look at two contemporary criticisms. One seeks to replace Gadamer's ontological hermeneutics with epistemological hermeneutics. The other appreciates Gadamer's ontological social science but argues that it must be supplemented by method and theory. In conclusion, the entry will briefly review how educational philosophers use hermeneutics to analyze educational practices, aims, and research.

Interpretive Social Science: Dilthey's Dilemma

Wilhelm Dilthey (1833–1911), a Protestant theologian, devoted his life to developing the *Geisteswissenschaften* (German for social science, also translated as the human or moral sciences, or sciences of mind or of the human spirit). Dilthey thought that human beings express their understanding of life experience in the form of meaningful objects, such as texts, works of art, and various cultural expressions, and that interpreting these meaningful objects is fundamental for maintaining social life. Social science therefore requires a hermeneutic method, not the methods of physical science. It also requires an epistemology of interpretive knowledge, not a theory of knowledge concerned with causal explanation. The German word *Verstehen* (interpretation; commonly translated as *understanding*) captures Dilthey's belief that the social sciences are interpretive and, therefore, are distinct from the physical sciences. Dilthey insisted that the two forms of scientific knowledge, while different, are equally rigorous.

Dilthey based his ideas on the *hermeneutic circle*, a method of interpretation that became prominent during the Reformation, when Protestant theologians sought to interpret the Bible without appealing to the Catholic Church to determine the meaning of problematic passages or resolve interpretive disputes. As its name suggests, the hermeneutic method assumes that interpretation is circular. Because the meaning of the Bible was thought to be unified and self-consistent, the meaning of any specific passage could be determined by referring to the text as a whole. But since understanding the text as a whole presumes understanding its problematic passages, determining the meaning of a problematic passage depends on a preliminary intuitive grasp of the text's entire meaning. Biblical exegesis thus revolves in a continuous cycle of anticipation and revision. Interpreting the meaning of any part of the Bible depends on having already grasped the meaning of the Bible as a whole, even as one's understanding of the entire Bible will be reshaped as one clarifies the meaning of its constituent parts.

Another Protestant theologian, Friedrich Schleiermacher (1768–1834), maintained that the hermeneutic circle could ensure understanding not only of the Bible but also of all written and oral expressions. Using this method correctly, interpreters could understand the meaning of linguistic expressions better than the authors who produced them. Schleiermacher transformed the hermeneutic circle from a method of Biblical exegesis into a general theory of interpretation that explained how understanding could be achieved in ordinary circumstances.

Extending Schleiermacher, Dilthey contended that the hermeneutic circle not only helps people reflectively interpret others' meaningful expressions but also enables people to understand themselves and their own lived experience. This is because life experiences do not unfold in linear fashion but, instead, are related to one another as parts are related to wholes. On the one hand, we understand specific life experiences in terms of how we understand the meaning of our life as a whole. At the same time, the way we understand our life as a whole depends on how we understand specific life experiences. Understanding specific experiences thus shapes and also is shaped by understanding the overall meaning of our lives, even as understanding our life's overall meaning both shapes and is shaped by how we understand specific life experiences.

Applying the hermeneutic circle to life, Dilthey realized that understanding is temporal. Past experiences constitute the "parts" of one's biography. The future makes it possible to fathom one's life in toto. Interpreting the meaning of the future depends on and reshapes one's understanding of the past, even as interpreting the meaning of the past anticipates and revises one's understanding of the future.

Interpreting the meaning of time therefore is integral to interpreting the meaning of lived experience. It is important to note that at the prereflective level of interpreting lived experience, time is not an *object* for interpretation. It is impossible to freeze or objectify the past in order to interpret it. Neither is the future a stationary target at which interpretation aims. One rather interprets the meaning of time as one moves through time. Where lived experience is concerned, interpreting time and experiencing time arise together.

Dilthey drew two conclusions from this insight. First, the meaning of life experience is fluid. With the passage of time, the meaning of the past and the future shifts. At different points in the future, one's past will mean different things. The meaning of the future also changes, depending on the particular stage of life from which the future is anticipated.

Second, interpreting lived experience does not produce understanding that is abstracted from the experience of living. We cannot escape our situation to interpret it. Nor can we interpret our life and *then* experience it. Rather, we are practically engaged in living the life that we interpret. Prereflective interpretation, in short, is situated, partial, practical, and personal.

Dilthey believed that prereflective understanding of one's own lived experience could evolve into reflective theoretical knowledge of how other people understand their life experience. Theoretical knowledge thereby extends and refines pretheoretical practical understanding. But Dilthey recognized that because theoretical knowledge is rooted in pretheoretical understanding, knowledge in the social sciences, particularly in history, differs from knowledge in the physical sciences. The historian who reflectively examines the meaning of historical events himself is a historical being. The meaning of the past therefore cannot be established once and for all but instead varies with the perspective of the historian who studies it. Moreover, theoretical understanding remains rooted in the pretheoretical understanding it aims to clarify, even as pretheoretical understanding is changed by the theoretical understanding that it grounds. Interpretation consequently revolves in a never-ending circle, rendering historical knowledge provisional and incomplete.

Although Dilthey believed that the interpretive social sciences could be as rigorous as the physical sciences, the character of knowledge in interpretive social science nonetheless vexed him. What kind of scientific knowledge is possible when the meaning of that which is studied constantly changes? Such knowledge is relativistic, not general and valid. Moreover, insofar as the historian "belongs" to the history he studies, historical knowledge cannot be objective. Historical knowledge instead is subjective, provisional, and partial. The circularity of interpretation raises the possibility that historical "knowledge" simply proves what it presupposes.

In an effort to reconcile understanding lived experience with scientific knowledge, Dilthey turned to his younger contemporary Edmund Husserl (1859–1938). Husserl demonstrated that science grows out of particular "lifeworlds" and necessarily presupposes nonscientific understandings. But while Husserl demonstrated that scientific knowledge depends on prereflectively understanding particular lifeworlds, he also subjected the lifeworld to phenomenological analysis to discover "essences" in lived experience that make theoretical knowledge of the lifeworld possible. In so doing, Husserl encountered a contradiction. On the one hand, pretheoretical understandings are relative to particular lifeworlds. On the other hand, phenomenological analysis aims to produce knowledge of the lifeworld that is universal and unconditionally valid. It was unclear how phenomenological analysis could both transcend and also remain indebted to pretheoretical understanding. Phenomenological analysis seemed both necessary and also impossible. Husserl did not solve Dilthey's dilemma but instead exposed another aspect of it.

Ontological Hermeneutics: Heidegger and Gadamer

Hans-Georg Gadamer (1900–2002) believed that Dilthey was stymied by a false assumption. Dilthey assumed that prereflective understanding is subjective. It therefore is biased and unreliable and cannot be the basis for interpretive social science. Gadamer countered that prereflective understanding is not subjective but instead is intimately and necessarily tied to critical reflection. The intimate necessary relation between prereflective understanding and critical reflection provides an opening for the disclosure of truth.

Gadamer based his ideas on the work of his teacher, Martin Heidegger (1889–1976). In his book *Being and Time* (1962), Heidegger probed two of Dilthey's important insights: (1) we experience the life that we prereflectively interpret and (2) prereflective understanding exhibits a circular temporal structure. Dilthey believed that these two conditions are contingent and apply only to prereflective understanding. Heidegger demonstrated that both conditions are necessary and characterize all understanding, including critical reflection.

Heidegger began by considering the question of existence. To exist, Heidegger reasoned, is to live in the present. As Dilthey showed, the present does not arise in a historical vacuum but instead always implicates the future and the past. Living in the present, we cannot help anticipate the future based on where we have been, even as our expectations for future experience color our understanding of the life we have lived. Heidegger used the term *historicity* to underscore the idea that human understanding is an *inescapably* temporal experience.

Insofar as understanding is an inescapably temporal experience, we do not choose to start (or stop) understanding at a particular point in (or out of) time. Rather, understanding is *a way of being* that always is already going on (to use Heidegger's phrase). It is true that understanding sometimes is mistaken. But breakdowns in understanding signify *mis*understanding, not an *absence* of understanding according to Heidegger.

As an experience that is always happening, understanding does not grasp the meaning of objects that are "present-at-hand," distinct from our interests and concerns. Understanding instead signifies being intimately involved with people and things. Our world is composed of implements that are "ready-to-hand," tied to our purposes, moods, interests, and so on. Heidegger described engaged practical ongoing understanding in terms of "fore-having," "fore-sight," and "fore-conception." The prefix *fore-* signifies that we are able to engage with implements in our world because we prereflectively sense how they are implicated with our interests and how they fit within the context of meaningful relations in which we find them.

The fact that we prereflectively understand meaning does not imply that understanding is stuck in the past. Prereflective understanding can change as human beings move into the future, reconsider prior understanding, and anticipate new possibilities. Heidegger insisted that prereflective understanding could become critical and reflective. But critical reflection does not produce understanding where none had previously existed. Critical reflection instead remains indebted to the preunderstandings it clarifies and corrects.

Heidegger coined the term *thrown-projection* to describe understanding as an experience of being involved in the world. The term *thrown* indicates that we do not construct the meaningful context(s) in which we live. Rather, we are born into a social world that is inherently meaningful and that has already been interpreted by others. Interpretation is possible, because the world discloses meaning through the medium of language. We inherit this social web of meaning as a linguistic "horizon" within which the construal of meaning for our own lives becomes possible. The term *projection* is not synonymous with *planning*, according to Heidegger. Projection instead indicates that understanding is a dynamic experience of anticipating future possibilities. Because expectations for the future necessarily arise in the present, we cannot see them in their entirety or with absolute clarity. Moreover, while future possibilities are open, they nonetheless are partially circumscribed by possibilities that already have been fulfilled.

Heidegger said that the human being who experiences understanding as a cycle of thrown-projection is *Dasein*. *Dasein* means "there-being." Unlike the autonomous epistemological subject who leverages interpretation to grasp the meaning of objects (including objectified experiences), *Dasein* is not an independent agent who confronts discrete objects, the meaning of which he must deliberately choose to discover or construct. *Dasein* rather is "there" in the world, spontaneously involved with things that *Dasein* understands prior to any distinction between subjects and objects. *Dasein* does not initiate understanding and does not regulate the production of meaning. The fact of existing in an inherently meaningful and already interpreted world—not *Dasein's* own initiative—is the condition that makes both prereflective and reflective understanding possible.

Heidegger's claim that understanding is a temporally conditioned way of experiencing the world carries profound implications for social science, Gadamer concluded. He developed these implications in his magnum opus *Truth and Method* (1960/1975). Before sketching Gadamer's ontological view of social science, it is helpful to clarify two points. First, while Gadamer challenged the "science" in social science, he nonetheless used the term

social science (moral science and human science). According to Gadamer, science does not refer exclusively to natural science or exclude the humanities. Like many Continental European thinkers, science for Gadamer refers to systematic study in fields as diverse as theology, archaeology, and politics.

Second, Gadamer did not dismiss natural science. On the contrary, he believed that natural science is necessary and important. But Gadamer wanted to decenter the hegemony of scientific method in social science. He feared that when we rely on method to reflectively understand the social world, we tend to emphasize understanding that we regulate and consciously produce. Consequently, we may delegitimize, occlude, or ignore understanding that we do not control and cannot divorce from our self-understanding and historical situation. Insofar as social science relies on method, Gadamer believed that it alienates us from important dimensions of our ordinary life experience. Overemphasizing method also warps natural science, Gadamer claimed. While method has a place in natural science, magnifying its role conflates natural science with instrumental procedures that negate the importance of interpretive judgment and modesty in scientific practice.

Gadamer thus was not hostile to science. Nevertheless, he sought to significantly reframe *social* science. Following Heidegger, Gadamer argued that interpretation in social science is a temporally conditioned experience or "event" that we live through, not a kind of knowledge that we achieve by methodologically regulating our life experience or by abstracting and justifying critical reflection outside of ordinary understanding. Understanding and interpretation in social science are no different from understanding and interpretation in daily life. In both cases, Gadamer maintained, we experience understanding and interpretation as a dialogue or conversation.

The notion that social science is a conversation might seem startling. We typically think that social scientists collect and analyze data. But the people and texts that concern social scientists are not sources of data according to Gadamer. They are conversation partners.

Texts for Gadamer are conversation partners no less than people. Texts are not inanimate objects in which an author's intended meaning is permanently congealed. Texts are rather dynamic linguistic horizons that disclose meaning over time. Gadamer's social scientist starts to understand a text when she recognizes that it raises a question or issue that does not belong exclusively to the text (or its author) or the question or issue that the text voices comes down through tradition and also concerns the social scientist. Similarly, the social scientist starts to understand another person not because she empathizes with him or is able to leap out of her own body to get inside his head but because understanding begins when the social scientist recognizes the question or issue that concerns the other person and realizes that this question concerns her as well.

Of course, neither party in the conversation can escape the situation into which each has been "thrown." Understanding therefore does not aim to capture *the* meaning of a question. The meaning of a question rather is codetermined by the horizons of the people who interpret it. People who inhabit different horizons will understand the "same" question differently. Insofar as horizons are temporal and change over time, the "same" question will be understood differently every time it is interpreted.

If we necessarily bring our own horizon to understanding an issue, how can we recognize the horizon of our partner? What prevents us from appropriating our partner's perspective or conflating it with our own? Gadamer proposes two answers. First, he notes that horizons are porous, not self-enclosed. In principle, therefore, horizons can interpenetrate.

Gadamer's second answer concerns the disposition of conversation partners. In a successful conversation, each party is open to the possibility that the other's perspective is true and may challenge and even refute one's own understanding. Gadamer insists that one's own understanding cannot be clarified or corrected as long as one entertains the other's perspective from afar and continues to maintain the truth of one's own position. Change instead requires one to *risk* one's assumptions and to actually experience the negation of one's understanding. Gadamer acknowledges that negative experiences are uncomfortable, nevertheless negative experiences can be openings for genuinely reflecting on prior understanding and arriving at new insight into an issue.

Thus, like prereflective understanding, critical reflection for Gadamer is an experience we undergo. In successful conversations, both parties are open to risking their assumptions. As a consequence of being challenged, the understanding of both parties can become more encompassing, perspicacious, critical, and reflective. Gadamer calls the reflective dimension of conversation a "fusion of horizons."

Neither party can predict in advance how its horizons will be fused. When one party tries to direct the conversation or claims to know what the other is thinking, "talk" becomes something other than conversation, Gadamer observes. But when a fusion of horizons genuinely happens, both parties come to understand a truth about life's meaning that neither could know outside of participating in the conversation.

In sum, Gadamer's reframing of social science in terms of a conversation that we experience with others differs from the way we typically characterize social science. Gadamer's researcher does not try to empathize with those whom she studies. Neither does she regard them and their cultures as exotic and distant. Rather, she endeavors to recognize a question or issue that she and her partner share. The meaning of the question cannot be determined "objectively" but instead is codetermined by the horizon of both the researcher and her partner and changes with each interpretive event. The self-understanding of Gadamer's researcher is not controlled or kept out of play but instead is affected by allowing her partner to challenge her understanding of the question that is of mutual concern. The researcher cannot direct this experience or predict the new insight that the conversation will disclose. Instead, she participates in an event that transforms both herself and her partner in ways that neither party can imagine in advance.

Insofar as method helps researchers regulate understanding, Gadamer contends that it distances them from their lived experience. Relying on method seduces people to underplay and even discount the experiential dimension of critical reflection. Social science becomes an intellectual exercise, not an opportunity for personal transformation. In place of honing methodological skill, Gadamer wants social scientists to cultivate the disposition to be open, take risks, and trust that they may have something to learn from their interlocutors. Framing social science as a conversation we experience with others can rehabilitate the moral dimension of social science, Gadamer concludes.

Responses to Gadamer

A number of contemporary scholars are developing the philosophical and practical implications of Gadamer's social science. In his influential essay, "Interpretation and the Sciences of Man" (1971), Charles Taylor (1931–) argues that social scientists are "self-interpreting animals" who always prereflectively understand their theoretical conclusions and who inevitably appeal to intuitions and self-understanding to justify their findings. Ruth Behar (1956–) provides a practical example of ontological social science. Behar's book, *The Vulnerable Observer* (1996), does not explicitly reference hermeneutics or Gadamer. Nonetheless, she argues in it that anthropological insight necessarily implicates the anthropologist's self-understanding; the anthropologist's self-understanding, moreover, is vulnerable to (and affected by) the people whom she studies.

While a number of practitioners and scholars embrace Gadamer, his work also provokes criticism. Thinkers such as Emilio Betti (1890–1968), E. D. Hirsch Jr. (1928–), and Dagfinn Follesdall (1932–) epitomize one line of response. According to these critics, Gadamer's claim that the interpreter's situation influences meaning and that meaning is construed differently in each interpretive event leads to relativism. Moreover, Gadamer provides no basis for adjudicating conflicting interpretations. Adjudication must appeal to an extracontextual criterion, which Gadamer believes is impossible. In short, these critics conclude that hermeneutics should remain under the umbrella of epistemology. They endeavor to show how interpretation is or can become a rigorous method and theory of knowledge for producing valid objective understanding of texts.

Jürgen Habermas (1929–) articulates a second response. Unlike the critics noted above, Habermas appreciates Gadamer's insight into the ontological nature of social science. Presuppositions are always operating, Habermas notes. Understanding is irreducibly contextual, historical, and bound up with the interpreter's self-understanding. The social scientist consequently belongs to the social world that he interprets. Social science theories issue from the pretheoretical practices they strive to explain.

But despite these points of agreement, Habermas questions Gadamer's faith in the power of language and conversation to disclose truth and promote critical reflection. Language is not simply a communicative medium for understanding meaning, Habermas argues. Material conditions and power interests can systematically and insidiously distort meaning in ways that language does not make apparent. Hence, reflection must do more than simply *clarify* lived understanding by means of conversation. Reflection must also help people *distinguish* lived understanding from ideology. Becoming liberated from ideology

requires a theory that can methodically explain the genesis of distortion by appealing to rationally self-evident causes.

Hermeneutics and Education

Contemporary scholars employ hermeneutics to analyze a range of educational issues, including children's rights, teaching and teacher education, science education, medical education, curriculum theory, inquiry-based learning, and validity in educational assessment. Some scholars contrast epistemological and ontological hermeneutics. Others focus on ontological hermeneutics as a framework for critiquing and reframing educational practices and aims. These scholars develop ideas articulated by Heidegger and Gadamer, who sought to interrupt utilitarian, technical, and market-based influences on education that emphasize developing skills and mastering knowledge. Heidegger and Gadamer countered that education is "*Bildung*"—an ongoing experience of self-formation and transformation—in which one learns to become receptive to ways of being that differ from and even challenge one's own horizon. Conceived as *Bildung*, education aims to help students become more reflective and humble as their horizons expand in ways that neither they nor their teachers can foresee.

Hermeneutics also resounds in normative debates about qualitative inquiry. From an epistemological perspective, the central issue for qualitative research is the dilemma that vexed Dilthey: Given that interpretation necessarily presupposes prior understanding that is personal, temporal, and situated within particular sociocultural contexts, how can interpretive conclusions be objective, generalizable, and valid? From an ontological perspective, the aim of qualitative inquiry is not simply to produce knowledge about educational questions. Qualitative research also should aim to *be* educative, catalyzing people to challenge their current understanding of education in order to arrive at new, more encompassing insights and questions concerning education and the human condition.

Debates about specific issues appeal to both Dilthey and Gadamer. For example, Dilthey and Gadamer maintained that interpretation necessarily implicates one's self-understanding and sociohistorical situation. While this idea is axiomatic among qualitative researchers, it nevertheless raises questions about the self-understanding of researchers in relation to the people they study.

Epistemologically oriented qualitative researchers wrestle with how they can control or at least reflectively account for their *own* "positionality" and self-understanding so that they can accurately interpret how their subjects make sense of the world. A key question concerns whether and how self-reflection on the part of researchers can be methodically achieved. Are there methods that can help researchers address challenges to self-reflection that arise in the field? If so, which methods should researchers adopt and under which circumstances?

An ontological view of self-understanding raises different issues. Some collaborative action researchers maintain that research questions should be of mutual interest to both "subjects" and researchers. Reflective insight into these questions cannot arise if researchers keep their understanding out of play. Both parties—subjects and researchers—must allow their understanding to be *critically engaged* by the other so that they might become aware of assumptions they might otherwise fail to notice. From an ontological perspective, the key question is, "How can researchers risk their self-understanding and be open to being challenged by their subjects (and vice versa)?" Learning to risk one's self-understanding is not a methodological achievement. It rather requires researchers to cultivate a certain disposition.

Debates about research as conversation illustrate another set of hermeneutic concerns. Some conclude that while conversation is an ideal to which qualitative researchers should aspire, it is unclear whether and how this ideal can be enacted. Institutional review board regulations assume that the rights of research subjects must be protected. This epistemological assumption makes it difficult, if not impossible, to approach research as a Gadamerian conversation that regards subjects and researchers as equal partners.

Some qualitative researchers adopt a Habermasian view of conversation. They point to a legacy of privilege and marginalization and warn that seemingly openhearted conversations can exploit subjects. Scholars of color who conduct qualitative research in their home communities discuss how their university status distances them from people with whom they were able to easily converse before they became university researchers. For these scholars, the unforeseen insights that arise during research conversations are experiences of alienation, not Gadamerian solidarity.

Finally, hermeneutics figures in debates about the scientific status of educational research. D. C. Phillips

has pursued this issue, arguing for the centrality of interpretation in postpositivist science. While the postpositivist embrace of interpretation came by way of Popper and Kuhn, not Dilthey, Heidegger, or Gadamer, the two views of interpretation are remarkably similar. For example, postpositivists acknowledge that research is mediated by the researcher's historical/cultural situation; observation necessarily is theory laden. With respect to social science, postpositivists recognize that researchers struggle to understand themselves as they endeavor to interpret others. Failing to acknowledge the need for interpretive judgment in science and social science results in a phenomenon that Phillips (2006) calls "methodolatry." Methodolatry conflates research with technical method (specifically, randomized field trials) and discounts research as a uniquely human practice.

Phillips's critique of methodolatry sounds Gadamerian. Unlike Gadamer, however, Phillips takes an epistemological view of social science and distinguishes claims about the empirical world from insights into the meaning of lived experience. The latter implicate self-understanding. The former do not. Openness to being challenged may help social scientists recognize when their conclusions are wrong. But claims about the empirical world can be wrong, *whether or not social scientists acknowledge that they are wrong*. Claims about the empirical world can and must be assessed on their own merit, Phillips stresses, irrespective of their origin or the self-awareness of the researcher who produced them. Assessing the validity of empirical claims and clarifying lived understanding are two different projects, Phillips concludes.

Conclusion

Hermeneutics addresses a range of enduring philosophical questions concerning how human beings understand themselves and the social world. Questions about interpretation are not simply theoretical, however. As hermeneutic analyses of education make plain, questions about interpretation are eminently practical. Questions of practice complicate interpretive theories, generating new questions for theory to clarify and explain.

Deborah Kerdeman

See also *Bildung*; Continental/Analytic Divide in Philosophy of Education; Critical Theory; Dialogue; Heidegger, Martin; Phenomenology; Philosophical Issues in Educational Research: An Overview; Qualitative Versus Quantitative Methods and Beyond; Schleiermacher, Friedrich

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Hidden Curriculum

A curriculum is a program consisting of a series of learning activities intended to realize some set of educational objectives. The mission of a school or other educational agency is understood to be the delivery of a curriculum to some group of students or other learners. Generally, the content of a curriculum is announced so that students and other stakeholders are aware of what learning opportunities are available at a given school or set of schools. It is the case, however, that not all of a school's learning opportunities are advertised—schools also feature a hidden curriculum whose objectives and learning activities are seldom spelled out. This hidden curriculum is implemented via routines and attitudes instilled through students' experiences with the explicit curriculum and its milieu; these experiences may be consonant or dissonant with the explicit curriculum. In any case, the instructional outcomes generated by these routines and attitudes are often judged by scholars and social critics to be more significant than those generated by the explicit curriculum. Therefore, ignoring the hidden curriculum is a stumbling block to disclosing the true character and outcomes of any curriculum. This entry discusses how the term *hidden curriculum* is used to refer to a variety of aspects of schooling, including collateral learning, socialization, and perpetuation of advantages based on gender or class.

In the education literature, the term *hidden curriculum* has been used in a number of different ways that are not always consistent. While all senses of the expression imply that it is somehow obscured from general notice, commentators otherwise define it variously and explain the intentions of its creators differently. Hidden curricula are often singled out to identify some educational ill, although it sometimes is argued that they can also take benign or positive forms.

John Dewey wrote about one meaning of hidden curriculum in *Experience and Education* (1938). He drew attention to how "collateral learning" (e.g., of habits and attitudes) affects what students take away from their encounters with subject matter. This collateral learning, he argued, holds equal or greater educational significance than the explicit curriculum because the habits and attitudes instilled have more lasting effects on students than the subject matter itself. There is now persuasive empirical evidence in support of Dewey's view, such as *The Subject Matters: Classroom Activity in Math and Social Studies* (1988) by Susan S. Stodolsky.

Philip W. Jackson is often credited with coining the term *hidden curriculum*. In his influential book *Life in Classrooms* (1968), Jackson portrays hidden curriculum in a manner related to, yet discernible from, collateral learning as described by Dewey. Rather than being focused on the subject matters of the curriculum, such as spelling and history, Jackson is more concerned with how classroom life socializes students to certain norms, expectations, and routines, such as working in a solitary fashion among a crowd of other students. In a similar vein, he points out how schools reward certain behaviors, such as compliance and patience. Jackson affords more significance to these types of factors than to the particular subject matter under study. One way of summing up Jackson's thesis is that patterns of repeated behavior over thousands of hours of classroom life, although seldom remarked on as the salient feature of schooling, may have a bigger cumulative effect on students than the formally announced curriculum. In a later book, *Untaught Lessons* (1992), Jackson further explored the implicit long-term effects teachers have on students.

The attitude Jackson adopts toward the hidden curriculum in *Life in Classrooms* could be considered neutral. Nonetheless, his book and other works with related themes, such as Robert Dreeben's *On What Is Learned in Schools* (1968), appeared during an era of widespread criticism of dominant societal values. Part of this criticism was directed at schools, particularly their role in perpetuating educational inequities. This context seems to have contributed to the keen interest educators took in hidden curriculum at the time. Whereas traditionally answers to what students take away from school referenced the objectives and content of the explicit curriculum, this type of response became regarded as discordant with reality when outcome measures showed that some groups benefited far more from school programs than other groups. In particular, attention was now drawn to how the hidden curriculum discriminated among students on grounds of gender, race, social class, and, in time, sexual orientation.

For example, investigation of gender and the hidden curriculum showed various ways in which girls were disadvantaged relative to boys. For instance, instructional materials were found to feature sexist assumptions while teachers gave more attention to boys than girls. Some of these practices were so overt that there was room for doubt as to whether it was warranted to designate them as cases of *hidden* curriculum.

Yet another sense of hidden curriculum centers on underlying forces that lead to schools reproducing the existing social and economic order. While related to the concern about discriminatory practices just mentioned, this perspective has been inspired by critical theory. It conceives the hidden curriculum as a mechanism by which schools legitimate the success of some students and the failure of others. Thus, schools serve to discriminate along the lines of social class, effectively assigning successful students to a path leading to managerial and professional positions and the rest of the students to skilled and unskilled labor positions. This view of the hidden curriculum came into prominence in the 1970s. In England, Paul Willis explored the role of schools in assigning working-class children to working-class jobs; Michael W. Apple and Linda McNeil were important voices for this line of thought in the United States. McNeil in her *Contradictions of Control: Social Structure and School Knowledge* (1986) argued that the underlying organization of high schools ran counter to realizing announced objectives such as teaching critical thinking. Rather, the unannounced objectives were set by forces beyond the classroom and were aimed at efficiency and control, which undermined the possibilities for engaging teaching and substantive learning. Skeptics of this critical line of thought asked, however, "*Who* or *what* was furtively organizing schools to these ends?"

Sometimes, "hidden curriculum" has been used to mean what schools do not make available—that is, what is not taught. This usage draws attention to the consequences of curricular neglect, since what is not taught is more than a neutral void; it limits what one can think about and the possibilities one can consider. According to Elliot W. Eisner, this is more properly termed the *null curriculum* since it connotes absence rather than lack of visibility.

The hidden curriculum has also been studied as a hindrance to educational change. For instance, the fate of instructional reforms or curriculum changes rests as much on school culture—much of which is in the hidden curriculum—as it does on announced and visible changes. This, according to Seymour Sarason, is a problem as the hidden curriculum serves as an obstacle to change. From this perspective, change generally stays at the surface level, leaving the basic workings of schools largely in place.

Stephen J. Thornton

See also Apple, Michael; Critical Theory; Curriculum, Construction and Evaluation of; Social Class; Socialization

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Higher Education: Contemporary Controversies

Higher education comprises formal or institutionalized education, leading to the awarding of recognized qualifications beyond the level of secondary schooling. It is defined in a variety of ways in different nations; in some countries, including parts of Europe and Australia, "higher education" is confined to degree-granting programs normally of three full-time years or more in duration. However, in some other countries, such as the United States and Canada, subdegree programs of two full-time years are included, while in some jurisdictions, shorter programs are included. The Organisation for Economic Co-operation and Development, which

publishes an annual series of comparative statistics on education, remakes the problem by focusing on "tertiary education" and dividing that category into degree and selected subdegree programs.

A related issue is the definition of *university*. This is variously regulated by legislation and custom, and again with a range of approaches. Some jurisdictions confine the title to institutions that conduct formal research activity. Others admit teaching-only institutions. Not all university programs entail degrees, and the length of programs varies greatly. In practice, however, the designation *university* tends to be more exclusive than *higher education*, which in many countries includes institutions designated as *colleges*, *institutes*, or with other titles, as well as *universities*. This entry discusses the role of higher education, the effects of growing enrollment in higher education, and tensions between the state and institutions of higher education.

Competing Narratives of the Role of Higher Education

Higher education institutions together are among the most connected of social sectors, and they are also relatively highly internationalized. Higher education is less ubiquitous than government or financial institutions but equivalent in the scale and scope of its networked relationships with churches and major professions. It includes a large proportion of national populations in its activities, at one or more stages of the life cycle, and is closely connected to government and to all organizations in knowledge-intensive economic and occupational activity.

Higher education is also attended by continuing controversies, for two reasons. The first reason is that higher education is the subject of different narratives concerning the social functions of the sector. These narratives, partly sustained by the various connections between higher education and other sectors, shape its practices. The purposes of higher education are many. The concept of the "multiversity," outlined in the 1960s by the then president of the University of California, Clark Kerr, was intended to capture this. The different narratives combine in often eclectic ways, and under some circumstances, they are in tension. There are various, often ill defined, and competing claims about higher education concerning its roles in individual and social formation, the allocation of social opportunities and fairness in that allocation, political democracy and the formation of citizens, international relations and global cosmopolitanism, economic productivity and the creation of employment opportunities for graduates, and even its contributions to culture, the arts, and civilization. It is impossible for any set of institutions to meet all such expectations simultaneously, expectations that are themselves subject to many interpretations.

The second reason why higher education is open to controversy is that it is primarily shaped by nation-states and open to the techniques of governmental control but needs some institutional autonomy and academic freedom to carry out its functions, especially in research. Government–institution tensions are endemic, especially in those countries with a liberal tradition, such as the English-speaking democracies.

These matters play out in different ways in national higher education systems. In addition to North American higher education, the most influential form, and higher education in the other English-speaking countries, there are distinct approaches to higher education in France, Germany, the Nordic zone, Russia and other European countries, China and the rest of East Asia, South Asia, Southeast Asia, Latin America, and elsewhere. All research universities have much in common, especially in the sciences, and have moved closer to each other in the era of the Internet through cross-border networking and mobility of people, global academic publishing, and the normalizing role of global university rankings that began in 2003. But national differences remain, especially in political cultures and state–institution relations, in the structuring of the academic profession, and in the financing of higher education. In some countries, the sector is largely funded by governments; in others, the funding is shared by students or households. While there are common trends and issues as discussed here, these are articulated through national systems in distinctive ways.

The classic 19th-century notions of the university, associated variously with John Henry Newman and with Wilhelm von Humboldt's idea of *Bildung* (German for *education* and *formation*), focused on the formation of personal attributes. Whereas Newman emphasized engagement in intellectual disciplines as an end in itself, and refused the possibility of other ends or purposes of education, the German tradition emphasized self-cultivation through learning, coinciding in this respect with Confucian tradition, and it was more open as to the uses or applications of higher education. These

traditions remain influential. More recent narratives have focused explicitly on the uses of higher education and its relations with other sectors and purposes. In a rebuttal of Newman, Clark Kerr titled his authoritative summary of the workings of the post–World War II higher education as *The Uses of the University* (1963).

As noted, the growth and development of modern mass systems of higher education have been shaped and largely financed (albeit to varying degrees) by nation-states. States emphasize the contributions of higher education to national economic development and its role in the provision of social opportunity. Increasingly, state policy also focuses on the role of higher education in augmenting the global capacity and competitiveness of the national economy and the contribution of research and research training to economic innovation. At the same time, the growth of popular demand for higher education, especially among middle-class families, continually drives governments to expand provisions of higher education. This is true in both multiparty electoral democracies and in one-party states such as China, Singapore, and Malaysia. Governments gain support by expanding educational opportunity. The nexus between popular demand for, and state-regulated supply of, higher education is associated with narratives about access, participation, and equality of opportunity. In addition, in many national systems, the focuses on economic development and educational opportunity are joined to discussions about the employability of graduates. There is recurring unresolved debate about whether higher education is responsible for graduate unemployment and what, if anything, it can do to enhance employability.

Since the early 1960s, the dominant policy narrative of vocational and higher education has been human capital theory. Summarized in the work of the Nobel laureate Gary Becker, human capital theory models education as an investment in the augmentation of individual economic attributes. It argues that the economic effects of education can be measured by calculating the difference between the lifetime earnings of graduates and those of nongraduates, though some human capital economists discount the calculation of rates of return for factors such as individual ability. In essence, human capital theory imagines that an increase in individual capability will increase the individual's intrinsic productivity; this triggers an increase in earnings, regardless of the state of the macroeconomy, fluctuations in labor market demand, the stratification of work opportunities, and the role of educational institutions in social selection. The enhanced earnings of graduates in turn feed into macroeconomic growth and prosperity. This narrative ascribes a central role to higher education in driving economic growth and suggests that the better the quality of higher education, the more effective will be its economic contribution. While conclusive empirical grounding for human capital theory is lacking, it remains influential.

Some economists and sociologists pursue an alternative narrative—screening theory. This models education not as a contributor to intrinsic productivity but as a signaling and queue-ordering device that facilitates employee selection of personnel. Human capital theory emphasizes the supply side of the education–economy relationship, and it assumes that education gains value from its intrinsic usefulness; screening theory emphasizes the demand side, and it assumes that education gains value from exchange in the labor markets. Human capital theory implies that more public and/or private resources should be invested in higher education to lift economic growth, whereas screening theory does not. Human capital theory suggests that any student placed in a higher education discipline ought to generate equal returns on investment; screening theory is more consistent with stratification in the value of institutional brands. On the whole, human capital thinking has been dominant in shaping policy, sustaining the expectation that more and better higher education should advance economic growth. However, government commitment to the value of investment is variable. Conditions of economic boom mostly favor an expansion of both state and household investment in higher education. Conditions of economic recession can trigger either increases or decreases in state investment and tend to depress levels of household spending.

Massification of Higher Education

Nation-building policies, economic agendas, and social aspirations, often but not always joined to demographic growth, combine to drive the continuous expansion of higher education systems almost everywhere. In an influential paper published for the Organisation for Economic Co-operation and Development in 1974, Martin Trow theorized the evolution of national higher education systems from an "elite" phase in which the rate of participation of young people was no more than 15% of the

age-group, to a "mass" phase in which the participation rate was between 15% and 50%, to "universal" systems with participation more than 50%. He argued that each phase was associated with distinctive institution and systems designs, curricula, and social expectations. Discussion of higher education and social opportunity is often joined to democratic narratives favoring the expansion of opportunity to include all citizens and the enhancement of relative opportunities for social groups underrepresented in the higher education sector. These social groups include women, ethnic minorities, people from rural and remote districts, and people from home backgrounds where income or parents' education is lower than the mean. In the past 30 years, in almost every national system, the overall participation of women in higher education has improved dramatically, so that women often outnumber men, except in a few disciplines such as engineering. In contrast, it has proven difficult to lift the relative proportion of students from poor backgrounds despite significant policy effort in many countries.

Yet the drive for expansion also embodies powerful desires for individual social status and relative advantage, if necessary at the expense of others; and equality of opportunity policies have often focused primarily on ordering a fair competition for scarce high-value places. The different institutions and disciplines do not necessarily confer equivalent value. For example, medical degrees confer relatively high value in terms of both social status and lifetime earnings. The paradox of status competition in education is that the more that aspiration and opportunity become universal, the harder it is for the average place in higher education to provide exalted status, as the number of positions that can provide relative advantage is fixed. Positional competition is a zero-sum game, as Fred Hirsch pointed out in *Social Limits to Growth* (1976). In most, though not all, countries, higher education institutions are ranked in hierarchical terms, whether formally in a system of institutional classifications or informally through social convention and reputation. Trow's elite system of higher education, centered on the strongest universities, seems to survive inside the mass or universal systems.

National research universities, supported by the government, play a leading role in nearly every national system. Only in the United States are most of the leading institutions located in the private sector. In other respects, there are marked variations in system organization. The degree of diversity of institutions itself varies significantly. Some systems exhibit a stable division of labor between institutional types, while in others, there are endemic boundary disputes, contestation over primacy in specific niches, and upward "academic drift" away from established missions. The role of institutions in research and the degree of selectivity of students at the point of entry are differentiating factors. In some systems, like the British, the norm is the large-scale comprehensive teaching and research institution active in most disciplines. In other systems, there are many specialist teaching institutions, which can be of high or low status. Some systems, following a pattern established in France and subsequently in Russia, provide specialist elite teaching institutions and maintain strong nonuniversity research institutes, though there is a trend toward large-scale comprehensive teaching/research universities, which is encouraged by the norms underpinning global university rankings. China has moved from the Soviet model toward the American science university model. In parts of Latin America, the leading universities are organized on a very large scale, exceeding 200,000 students, and located in many sites, providing both leadership training and social access and conducting a large proportion of national research. The role of the private sector varies from country to country. In some countries, all or nearly all institutions are public. In some systems, the private sector is largely confined to low-value, for-profit producers, triggering concerns about quality. In others, nonprofit institutions play a variety of roles. Private-sector quality, especially in the for-profit subsector, is often a concern.

In all countries—whether higher education is conceived as a market or as part of civil society, as in the United States, or is understood to be a branch or aspect of state—the most common location, the system boundaries, the stratification, and the division of labor between institutional types are ordered by governments or public authorities. Even private institutions are closely regulated, except in cross-border online education.

State–Institution Tensions

The continuous state–institution tensions play out in differing ways by country. A wide range of arrangements are in place, from systems where higher education is a branch of the state, university leaders are appointed by ministers, and faculty are paid as public servants to systems in which universities

are governed by independent boards or councils that appoint the executive leadership and fix rates of pay. In some countries, institutions select their own students; in others, the allocation of places is determined by government. Everywhere, however, institutions of higher education, in particular research universities, need partial autonomy. They must exercise their own scholarly judgment to be effective in knowledge production—in most countries academic freedom is seen as a normal operating condition for teaching and research, though the definition of academic freedom varies and manifestations of freedom can be contested. American tradition links academic freedom to tenured (permanent) employment and conceives of that freedom largely in terms of freedom from constraint or coercion by the state, but these are not norms in all systems—and in the United States, faculty can be constrained by university managers or by market forces. For example, companies supporting biomedical research via grants and contracts may seek to restrict research activity and the free flow of research findings. In East Asia, notions of academic freedom are closely joined to responsibility and conceived more in terms of positive freedom—that is, the freedom to act or enable—rather than negative freedom. Some conventions treat academic freedom as confined to the knowledge specialization of the scholar or researcher; others treat it as a general right to make public comments in any area. At the same time, states emphasize the utilities of institutions and seek to manage their autonomy within defined policy parameters and externally determined ends. In some countries, institutional autonomy and academic freedom are more restricted, especially in those countries in which university leaders are appointed by government.

Many governments now favor business and quasi-market models in institutional organization and system design, such as competition in the allocation of research funding and other resources, product formats, strategic executive leadership, financial autonomy for institutions, and expectations that institutions raise some of their own funding. In some systems, tuition fees have markedly increased in the context of a consumer model of institution–student relations. These measures have been accompanied by a weakening of professorial self-government, growth in the power of the university executive, and the growing role of the institution *qua* institution and of its brand, though the academic disciplines also continue to shape practices, especially in the leading universities. The widely used triangle model of higher education developed by the sociologist Burton Clark, incorporating interaction between state, academic oligarchy, and market, requires modification to include the university executive as an influential factor. In some countries, the partial shift from state funding to private funding is associated with a weakening of government commitment to the public role of institutions. While most systems retain a policy commitment to securing broad social opportunity in higher education, this commitment rarely extends to providing equal access of all social groups to the leading institutions—social outcomes based on meritocratic competition still prevail. Though this is consistent with the market model, unequal social outcomes generate continued controversies.

Simon Marginson

See also *Bildung*; Confucius; Globalization and World Society; *House of Intellect, The*; Human Capital Theory and Education; Multiversity; Newman, John Henry (Cardinal)

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High-Stakes Testing

High-stakes testing is a significant aspect of educational assessment in much of the developed world. The phrase indicates that test results are being used to judge the quality of schools and teachers. Such judgments may have serious consequences for the individuals and institutions concerned.

Many feel that such a function for assessment is just one manifestation of an "audit culture" increasingly prevalent in contemporary society, where a variety of agencies and individuals are mistrusted and are believed to require intensive scrutiny to prevent them from "failing." The accountancy metaphor captures many fields, including health care, university research, and social services; they are "audited" by focusing on certain kinds of performance data. Critics argue that high-stakes testing corrupts learning and distorts the curriculum. In contrast, its supporters assert that it raises educational performance. This entry discusses the arguments for and against high-stakes testing, the reasons it is difficult to compare test results across time periods, whether "teaching to the test" skews results, and how the reliability and validity of tests are judged.

Defenders of high-stakes testing note the high cost of education, the importance of safeguarding children from incompetent schools and teaching, and the growing significance of education for competitive industrial economies in globalized markets. They argue that schools themselves should be only too willing to cooperate with our contemporary audit culture if they are genuinely committed to the highest possible educational standards. Champions of current testing functions claim that they play a crucial role in "driving up" educational standards; schools know that poor results will be exposed in published "league tables"—tables ranking schools by performance—and that the mass media will relish the opportunity to expose "inadequate" performers. Moreover, there is said to be strong public support for accountability focusing on tests and widespread appreciation of the easy availability of information about educational institutions in the form of exam grades. Some feel that teachers' very aversion to high-stakes testing suggests that they are afraid of rigorous scrutiny.

Claims about driving up standards are in need of careful scrutiny and analysis. There will be assumptions about what counts as changes over time, about how to detect them, and about what account of "educational standards" is defensible in the first place. Tests can either be *norm referenced*, where a pupil's ultimate grade reflects how well the pupil did compared with others who took the same test, or *criterion referenced*, where test responses are judged according to criteria purporting to describe relevant knowledge, understanding, and performance. Examples of the latter include "count up to 10 objects," "read and write numbers to 10," "decode familiar and some unfamiliar words using blending as the prime approach," and "show some awareness of punctuation marks, for example, pausing at full stops."

Only criterion-referenced tests could, even in principle, have the potential to detect real changes in educational achievements over time. On the face of it, we could discover, for instance, that more seven-year-olds can read and write numbers up to 10 than was the case a decade ago. Norm-referenced tests cannot do this: Grades reflecting how well a student did in comparison with fellow students on a particular occasion can tell us nothing about standards over time.

In some countries where high-stakes testing is combined with a criterion-referenced approach, examination scores have steadily improved. The United Kingdom furnishes us with some examples of this, in the form of National Curriculum tests taken by 11-year-olds and General Certificate of Secondary Education examinations taken by 16-year-olds. There is much controversy over how to interpret such trends. The phrase *grade inflation* is often used in this connection, and it implies that the "same" levels of knowledge and understanding are being awarded higher grades as the years go by. This interpretation is popular with many lay people in the developed world, who have the impression that each generation of school leavers does *not* know and understand more English, mathematics, and so forth than earlier generations.

However, a host of challenges confront any attempt to justify the accusation of grade inflation. Admittedly, in a high-stakes assessment culture, it is likely that teachers have grown more and more skilful at eliciting good test performances whether or not the pupils actually know and understand more. Yet the alleged divide in this supposition, between "real" knowledge and understanding, on the one hand, and test performance, on the other, can only be supported where the tests purport to measure underlying understanding, rather than factual recall or proficiency in observable procedures and skills.

One illustration of the latter might be questions about multiplication, offered rapidly by the tester with the requirement that pupils write their answer immediately. The former might be exemplified by questions involving word problems such as "Mum drives 143 kilometers altogether to visit her aunt. She stops after 47 miles for a coffee. How much further must she drive to reach her aunt?" Here, students must determine which combinations of arithmetical operations are required to arrive at the answer. Such problem solving seems to require an underlying understanding of the relevant arithmetical operations. Note also that at a deeper philosophical level, this whole narrative deserves a proper account of "underlying understanding" that explains how it differs from and yet is manifested by observable performances.

Some empirical researchers have investigated standards over time by repeating exactly the same test on randomly selected groups from each year's pupils. They compare these results with data from different kinds of tests where any one version is not absolutely identical with, but is devised to be "equivalent" to, previous tests. Suppose repeating exactly the same test provides scores that are steady over several years, while grades derived from the merely "equivalent" tests rise in the same period. This at least raises the possibility that the latter tests are afflicted by "grade inflation."

Since test results have been made to matter so much, many educators have felt compelled to *teach to the test*. Broadly speaking, this phrase captures teaching that maximizes pupils' chances of scoring highly in tests without regard to what they actually learn during this process. *Teaching to the test* also indicates teaching focused on the subjects and content to be examined, rather than on other unexamined subjects. So, for instance, in the English tests for 11-year-olds in England, "speaking and listening" have never been assessed. Hence, less attention is given to speaking and listening than to reading and writing.

It may be objected that criticisms of teaching to the test have been overblown and have failed to distinguish between significantly different kinds of learning and teaching. For instance, where specific skills and factual recall are concerned, teaching to the test would seem to be the obvious strategy. If a pupil needs to know irregular French verbs or how to play the scale of A minor on the piano, the kind of teaching that improves the chances of demonstrating just these facts or skills in the relevant test would seem to be wholly justifiable. On the other hand, where the material to be learned very obviously cannot be comprehensively characterized in terms of skills and factual recall, teaching that exclusively focuses on *performance* does seem open to serious objection. Examples crucially involving some depth of understanding include the idea of a "fair test" in science, grasping the concept of a function in algebra, and appreciating the significance and influence of the contexts in which literary texts are written and received in English literature.

Nevertheless, some educators claim that teaching for understanding can, at one and the same time, be the most effective way to boost test performance in any case. The obvious difficulty here is that teachers under pressure from high-stakes testing find this claim hard to accept. Critics of high-stakes testing urge that verdicts on high-stakes assessment must be informed by realism about how teachers feel about the pressures they suffer.

Traditionally, tests are rated in terms of their reliability and validity. Reliability relates to the test's *consistency*. There are several ways of construing this feature, including whether, for instance, different graders would score a particular test paper in the same way or whether someone taking the "same" test on different occasions would obtain the same score each time. Validity concerns whether the test actually measures what it is supposed to measure. So a math test involving problems expressed in words, when administered to a group of pupils whose first language is not English, might not be a *valid* measure of their mathematics achievements, but instead, it may be a misleading indicator of their capacity to read and understand English.

One way of expressing the criticism of the kind of teaching to the test encouraged by a high-stakes regime is that it tends to corrupt the validity of the tests concerned. This criticism makes most sense where the tests purport to measure "real understanding," rather than mere observable performances, since much teaching to the test is held to concentrate on the latter. Of course, if the test is *intended* to measure skills directly, then the worry about corruption of its validity makes little or no sense.

Assessment experts have long debated a tension between test validity and test reliability. Evidently, where tests are performing a high-stakes accountability function, strong levels of reliability are crucial. Perfect reliability is, of course impossible, but schools and teachers expect high levels of consistency when their futures depend on it.

It may be argued that certain types of learning achievement resist consistent assessment. Yet it is not at all obvious that *all* such achievements are educationally unimportant. Candidates for learning of this kind involve pupils in making interpretations and value judgments. Consider, for instance, criteria drawn from English literature exams that include phrases such as *communicate content and meaning through expressive and accurate writing*, and *engage sensitively and with different readings and interpretations demonstrating clear understanding*.

Securing intergrader consistency in the face of such phrases requires examiners to reach uniform verdicts about pupil responses. How can such consistency be achieved? One expedient is for a grading scheme to specify readily observable or measurable proxies for the rich content concerned. For instance, *sophisticated use of sentence structures* might be translated into directly observable text features such as *varying length of sentences*, *using the active and the passive voice*, *beginning sentences with a variety of phrases*, and so on. Now, defenders of the possibility of consistency might dismiss this way of achieving it as manifestly absurd, deliberately designed to undermine their position. They may claim that professional graders can manage perfectly well without proxies, being quite capable of working together to achieve a suitable consensus in verdicts.

Yet such a consensus implies that graders are making very similar interpretations of the responses, backed by a remarkable coincidence in relevant value judgments. Arguably, this is at least suspicious, and if it results from some kind of imposition from an examination authority, it raises the question as to whose value judgment or interpretation would be regarded as definitive, and why. On the face of it, pupil responses of the kind under discussion *should* elicit a variety of reactions from examiners. If such variation is undermined, some would argue that the interpretations themselves are being corrupted.

Andrew Davis

See also Abilities, Measurement of; Accountability and Standards-Based Reform; Behavioral Objectives and Operational Definitions; Quality of Education; Validity, Types of

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Homeschooling

The modern phenomenon of homeschooling, or "home education," takes a variety of forms, but typically, it involves parents assuming primary responsibility for the schooling of their child—either by providing direct instruction themselves or by arranging learning opportunities such as online coursework, community-based programs, or selected classes from institutional schools. Although the United States has the largest number of homeschoolers by far (perhaps 4% of the school-aged population), the practice appears to be growing in many countries. Philosophical analysis is typically brought to bear on homeschooling in two ways: (1) theories of learning and (2) the relative interests of parents, children, and the state.

Perhaps the ultimate in individualized and privatized education, homeschooling challenges modern notions of institutionalized schooling and standardized curricula. Homeschoolers' varied practices reveal a wide range of philosophies of curriculum and learning. On one end of the spectrum is "unschooling," which relies on the child to direct the shape and direction of learning. Similar in some respects to institutional "free schools," where no formal curriculum is imposed and students decide what questions or topics to explore, unschooling is based on the conviction that children's natural

curiosity provides sufficient motivation and direction necessary for successful learning. By contrast, other homeschoolers choose to replicate the curricular and motivational structure of much institutional schooling, with fixed schedules and assignments. In contrast to unschooling, this structured approach to homeschooling views external requirements as necessary for learning. Not surprisingly, religious conservatives—whose typical views of "original sin" include children's motivations and behavior—tend toward the more structured end of the homeschooling curricular spectrum.

While philosophies of curriculum and learning obviously play an important role in the shape of homeschooling, the bulk of philosophical literature on home education focuses on its implications for the varying—and sometimes conflicting—interests of children, parents, and the state. Parents have an obvious interest in the education of their children; beyond wanting their children to gain academic proficiency, parents seek to instill certain values and commitments. Children themselves have interests at stake; besides intellectual skills, children need to develop a sufficient degree of personal autonomy—having an array of life choices, as well as the capacity to think and decide for themselves about those choices and the people they want to become. Finally, the state has an interest in the development of citizens who can contribute to society, both in terms of economic self-sufficiency and civic participation.

Philosophical arguments typically focus on the tensions sometimes inherent between these respective interests of parents, children, and the state. Parents may have educational goals and priorities for their children that conflict with their children's own best interests. For example, parents may envision a certain career for their son against his wishes or seek to foreclose certain life options for their daughter (believing that females should not be encouraged to have a professional career). Tensions can arise between the interests of the parents and state as well. In liberal democratic societies marked by value pluralism, the state depends not only on the development of economically self-sufficient citizens but also on individuals who can engage respectfully with fellow citizens representing a diverse array of values and ways of life. This educational goal may be in tension with familial, religious, or cultural beliefs that oppose such engagement. In extreme cases, for example, a homeschool parent might sequester the child from interactions with all but the most like-minded people.

Complicating the analysis of relative interests are often conflicting philosophical visions of the requirements of personal autonomy, in terms of what is necessary for both personal fulfillment and virtuous citizenship. In colloquial terms, autonomy can be said to involve thinking and acting for oneself, but liberal theorists differ widely on what exactly this means, not to mention what it would look like or how to determine whether it has been achieved. Some emphasize the ability to shape one's life course from an array of choices, which raises questions about what it means to freely choose. Other accounts emphasize careful reflection on one's beliefs and values, ultimately revising or affirming those core convictions.

Homeschooling is often the site of profound disagreements over the proper role of the state in ensuring that all children realize their interest in developing essential academic skills. Although there is little dispute, either philosophically or legally, that parents have the right and responsibility to raise their children, this consensus does not extend to parents' control over formal schooling. Many homeschool advocates contend that the educational realm should be understood as simply part of the broader framework of parental rights and responsibilities. But parental rights, like any set of rights, are not unlimited. In matters of children's basic welfare and the role of social service agencies, for example, parents have the right to raise their children as they see fit, and the state may not intervene unless compelling evidence exists that children are being abused or neglected. The burden of proof, so to speak, is on the state—parents are not required to submit yearly "child welfare progress reports." In the same way, homeschoolers often assert that parents' rights to direct their child's education should be infringed on only if there is evidence to suspect that they are neglecting this responsibility. Many theorists and legal analysts, however, draw an important distinction between schooling and parenting and insist that the burden of proof regarding homeschooling's effectiveness rests with parents—thus justifying more extensive state oversight.

Not only does homeschooling pose important philosophical questions as a particular educational practice itself, it also points to the increasingly complicated calculus of the state's role in children's schooling more generally. The rise of cyberschooling and distance education has begun to blur the boundaries between formal schooling and informal education in ways that make the oversight role of the state

less clear and more difficult to navigate. What counts as formal education—and what authority the state should have over it—is a question whose relevance will only increase as educational choices proliferate.

Robert Kunzman

See also Autonomy; Children's Rights; Citizenship and Civic Education; Learning, Theories of; Rights: Children, Parents, and Community; School Choice

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House of Intellect, The

Jacques Barzun (1907–2012), a noted American educator, used *the house of intellect* as the title of an influential book, first published in 1959. The house of intellect encompassed "the persons who consciously and methodically employ the mind; the forms and habits governing the activities in which the mind is so employed; and the conditions under which these people and activities exist" (Barzun, 1959, pp. 3–4). Many writers have since come to use the phrase as a loose synonym for the institutions of higher education. Barzun actually wrote about it with a more complicated, distinctive meaning.

Barzun's *The House of Intellect* exemplified his gift for engaging, lucid prose; his concern for the condition of education at all levels; and his questioning convention and fashion, all to strengthen important forms of thought and action. Barzun wrote about a collective capacity, intellect, which he thought was important yet poorly maintained. At the time, Barzun was provost of Columbia University, a cultural historian of great stature who could address a wide range of topics—from baseball and crime stories to Berlioz and all aspects of Western culture—to an extensive, nonspecialized audience. The phrase—*the house of intellect*—stuck, perhaps better than his diagnosis of its plight.

Barzun distinguished *intellect* from intelligence—intelligence was a universal trait of persons, but specific persons constructed *intellect*, a social force supported by special forms and institutions. Intellect was "intelligence stored up and made into habits of discipline, signs and symbols of meaning, chains of reasoning and spurs to emotion—a shorthand and a wireless by which the mind can skip connectives, recognize ability, and communicate truth" (Barzun, 1959, p. 5). The alphabet and its many uses typified the achievement and resources of intellect. The house of intellect had structure and furnishings, as well as component parts and routines, all of which needed care and maintenance.

Intellect had problems of its own making: its abdication of its virtues and capacities. Intellect was losing three strengths—(1) its status as a distinct group apart from others; (2) its abiding effort within to keep its working tools, particularly skills of literacy, in good order; and (3) its confidence that

> with a cautious confidence and sufficient intellectual training, it is possible to master the literature of a subject and gain a proper understanding of it: specifically, an understanding of the accepted truths, the disputed problems, the rival schools, and the methods now in favor. (Barzun, 1959, p. 12)

Readers often interpret Barzun as a conservative elitist, but doing so blurs what is unique in his thought. He generally spoke for matters such as intellect, which had direct and indirect value to all, and he criticized popular and elite developments that diminished them. With intellect, Barzun warned that art, science, and philanthropy were powerful forces abetting the internal weakening of intellect. Art liberated the spirit by celebrating ambiguities but harmed intellect, which could not maintain its standards of precision as devotion to art became too single minded. Science shared with intellect a commitment to precision, but it created difficulties because its jargons and narrow foci made the commitment to common knowledge more difficult. Finally, philanthropy, a pursuit of "free and equal opportunity as applied to things of the mind," weakened intellect's drive to precise discrimination and judgment.

Barzun's book addressed "the state of the language, the system of schooling, the means and objects of communication, the supplies of money for thought and learning, and the code of feeling and conduct that goes with them" (p. 6). These topics summarize well the concerns animating all of Barzun's writing over his long and productive career. For instance, through cultural history, his main professional calling, Barzun was exploring in one way or another "the code of feeling and conduct that goes with" thought and learning:

Superstition: *Race: A Study in Modern Superstition* (1937) and *Darwin, Marx, Wagner: Critique of a Heritage* (1941)

Romanticism: *Romanticism and the Modern Ego* (1943, expanded in 1961 into *Classic, Romantic, and Modern*) and *Berlioz and the Romantic Century* (2 volumes, 1950 and subsequent editions)

Music: *Berlioz, an Anthology on the Pleasures of Music* (1951) and *Music in American Life* (1956)

Art and literature: *The Energies of Art: Studies of Authors, Classic and Modern* (1956), *The Use and Abuse of Art* (1974), and *The Culture We Deserve: A Critique of Disenlightenment* (1989)

Aspects of popular culture, sympathetically appreciated: *God's Country and Mine: A Declaration of Love, Spiced With a Few Harsh Words* (1954), *The Delights of Detection* (1961), and *A Catalogue of Crime* (1971)

Biography: *Berlioz and His Century: An Introduction to the Age of Romanticism* and *A Stroll With William James* (1983)

These works led to his magnum opus, *From Dawn to Decadence: 500 Years of Western Cultural Life, 1500 to the Present* (2000), published at the age of 93. It is an innovative, comprehensive work on the codes of feeling and conduct in the thought and learning of the modern West.

Many of Barzun's other publications concerned "the state of the language" and "the means and objects of communication." These cultivated the value of literacy for the work of intellect.

The Modern Researcher (1957 and later editions)

Follett's Modern American Usage (1966)

On Writing, Editing, and Publishing (1971)

A Word or Two Before You Go: Brief Essays on Language (1986)

Simple and Direct: A Rhetoric for Writers (1975)

Other books dealt with "the supplies of money for thought and learning," not simply their scale and source but also how the supplies could best serve the intellect:

Science: The Glorious Entertainment (1964)

The American University: How It Runs, Where It Is Going (1968)

Clio and the Doctors (1974)

Last, Barzun consistently expressed his commitment to clear and disciplined instruction; to effective, unencumbered teaching; and to curriculum that imparts the skills of intellect to all children:

Teacher in America (1945)

Begin Here: The Forgotten Conditions of Teaching and Learning (1991)

*What Is a Schoo*l? and *Trim the College!* (2002)

Among Barzun's many awards, in 2007, his hundredth birthday, he received the 59th Great Teacher Award from the Society of Columbia Graduates, a fitting recognition of his service in the house of intellect.

Robert O. McClintock

See also Adler, Mortimer, and the Paideia Program; Cultural Literacy and Core Knowledge/Skills; Liberal Education: Overview; Newman, John Henry (Cardinal)

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Human Capital Theory and Education

The notion of human capital in economics is associated with the names of the Nobel laureate Gary Becker (University of Chicago; born in 1930) and Jacob Mincer (Columbia University; 1922–2006). Their main contribution was to consider the decision to pursue schooling as an investment decision, which is different from consumption decisions.

Most students attend school because they are compelled to, especially at the early stages; however, a fraction of students may do so because they enjoy acquiring new knowledge or because of the social status associated with it. In both cases, we are unable to explain why a small proportion of individuals are willing to invest a large amount of money in order to attend prestigious colleges. Similarly, we are also unable to explain why the group of tertiary educated is socially selected (in terms of parental education, income, and/or wealth). If it were just a matter of tastes, the standard approach to consumption would predict that the more educated would have been those youngsters who attribute less value to leisure (and who, therefore, would suffer less in renouncing things such as sporting activity and game playing).

There is of course some truth in this perspective—as for any consumption commodity, the demand increases with disposable income and decreases with the relative price. Richer people demand more education, but the overall demand decreases at later stages of education (since these are more expensive). This explanation, however, is at odds with the fact that people attend schools at earlier stages of their lives despite being richer at later stages.

Here is where the notion of schooling as an investment proves its value in accounting for these observed behaviors. The basic economic underpinning for any investment decision is giving up current opportunities in exchange for future advantages—an investor renounces current consumption in exchange for greater consumption in the future. In the case of educational choices, current income opportunities are renounced in exchange for better income prospects in the future. The decision to remain a student (especially at the secondary or tertiary level) is compared with the alternative of immediate entry into the labor market; and the opportunity cost of forgone income (namely, the potential earnings of working if one forgoes further education) are compared with the future prospects of the wages to be earned as a more highly educated worker.

Thus, the time spent in school (and the correlated amount of knowledge that is presumed to be accumulated) is the resource that is invested by any individual who aims to improve his or her future income prospects. This choice is undertaken under conditions of uncertainty, since no one knows what the labor market situation will be in the near future. For this reason, people rely on expectations by observing the existing wage differential in the labor market. In the Organisation for Economic Co-operation and Development countries, the so-called college premium (namely, the percentage difference in earnings between tertiary-educated and upper secondary school graduates of the employed population between the ages 25 and 64) was 55% in the year 2010 (Organisation for Economic Co-operation and Development, 2012). Thus, any youngster completing secondary school has to compare the alternative of immediate entrance in the labor market (where additional knowledge is also accumulated through learning by doing) with spending three to five years in college, in exchange of an estimated increase by half of the earnings over the course of the working life.

In principle, this opportunity is open for unlimited school attendance; but the return on acquired human capital has to be recovered over the remaining working life. This is not in contradiction with the fact that most college graduates do not apply for a second or third degree, knowing that losing additional years out of the labor market would not be compensated for by the potential gains.

Under appropriate assumptions, one can estimate the expected return associated with an additional year of schooling. By comparing the income streams over the entire lives of two otherwise identical individuals, one can statistically obtain the internal rate of return that would make them indifferent between the two alternatives. This procedure is usually indicated in the literature as a *Mincerian wage equation*. It has been repeatedly estimated for many countries, age cohorts, genders, and ethnic groups; the results obtained are of the order of a 4 to 12 percentage point increase for any additional year spent in school.

Given the size of the premium, one may wonder why we do not observe a massive demand for schooling in every country and for every age group. The main economic explanation makes use of two concepts: (1) *ability endowment* and (2) *liquidity constraints*. The first one considers that the learning of additional knowledge takes place at different speeds for different individuals. Thus, the brightest students accumulate more knowledge in a given amount of time compared with the less able. In many respects, this is also true when we replace the notion of ability endowment with the notion of family background. Thus, the speedier a student is, the lower will be his or her cost for acquiring education, and other things being constant, she or he will stay in school longer. The other source of individual heterogeneity derives from different access

to financial resources: Postponing entrance into the labor market requires funding to provide support during the period of study. In addition, tertiary institutions charge tuition fees that also need to be financed. Financial markets are typically reluctant to provide such funding, since poor individuals can provide no collateral.

A final assumption supports the notion of human capital. Educated workers will earn higher wages if and only if they are more productive from the point of view of the potential employer. By inference, countries with more educated labor forces should experience higher incomes. Unfortunately, empirical evidence is rather inconclusive in this respect. One possible reason is associated with the distinction between *quantity* and *quality* of human capital. Given the increasing availability of data on student test scores, some authors have studied the correlation between gross domestic product and average students' achievements in the same countries, even controlling for the average years of schooling in the population. The underlying intuition is that just spending time in school does not necessarily translate into the acquisition of additional knowledge, for this depends on factors such as quality of the teachers and the school management. The empirical evidence does not contradict this intuition.

Overall, the human capital paradigm is nothing more than an analogy, though a convenient one. We do not have compelling evidence that education increases workers' productivity per se. In general, education induces self-sorting of individuals, who therefore differ not only with respect to the education they have acquired but also with regard to many other unobservable characteristics that may be valuable for a firm. Suppose, for example, that self-consciousness favors the acquisition of education, and for similar reasons reduces absenteeism among workers; firms, then, will demand self-conscious workers because they are more productive (i.e., they display less absenteeism), and the workers themselves will also be more educated.

This opens the door to the competing explanation for the positive correlation between schooling and earnings, which is found in the data: the *signaling theory.* In this framework, employers aim to attract abler workers, but ability is not observable. So if abler workers can find a way to signal this, and if their behavior cannot be copied without cost by less able workers, then in a condition of equilibrium, we should observe that abler workers emit such a signal (e.g., signaling that they possess a degree or a school certificate). According to this theory, then, education is worthless from a productive point of view, but it helps in the screening of individuals.

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See also Capital: Cultural, Symbolic, and Social; Education Production Functions

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Identity and Identity Politics

Identity—who we are—is often taken for granted; our sex, gender, sexuality, race, ethnicity, nationality, and so on constitute "who we are" and make us ourselves. Social theory, however, problematizes this commonsense notion of identity by asserting that identity is inextricably bound up with social categories and social relations, categories and relations that are themselves caught up in each other. The emphasis is on the way the social world has an impact on and shapes identity.

A concern with identity in educational studies often is also a concern about a range of enduring inequalities and the way particular sorts of inequality are attached to particular identities—for instance, women and wages, or minority ethnic students and educational outcomes. The issues are not always straightforward. There is significant ongoing academic debate as well as political struggle over what actually counts as inequality, which groups are experiencing inequality, whether inequalities are getting better or worse, and how inequality can be measured. In relation to education, there has been sustained debate over whether race or social class is a key axis of inequality and whether girls really are outperforming boys, and, if they do, where and when they do so and whether this is an advantage that is sustained in later life. Even when the identity group of concern has been settled on, there can be further contestation over the mechanisms through which inequalities are produced, namely, about whether these are the result of structural, systemic, institutional, and/or professional practices or whether they are the result of the characteristics or properties of the groups themselves. This latter approach is criticized for suggesting deficits within the individuals, groups, or communities that face the inequality in questions—it is seen as a "blame the victim" approach. This entry discusses the rise of identity politics during the 1960s and 1970s, the tension between concepts of identity as the essence of a person or as a construct, constructionist and poststructural approaches to identity, and research on how identity categories create educational advantages and disadvantages.

Identity politics arise out of demands to address the inequalities experienced by particular identity groups. Historically, we can identify the movements for women's suffrage and the abolition of slavery as early instances of politics attached to identity. Identity politics took off, though, in the 1960s and 1970s, when the Black civil rights movement, second-wave feminism, and the gay and lesbian movement all engaged in political struggles over the inequalities their members faced. Often referred to as new social movements, groups engaged in identity politics make claims concerning legal rights and material redistribution, as well as social recognition and equal treatment. That is, these new social movements engage in both material and cultural politics; and the activities of these movements have coincided with struggles for self-determination or nationhood for indigenous and colonized peoples around the world. Here, claims to political and land rights are often tied to the demonstration of a particular identity that is not social or mobile but is fixed and inheres in the person in an

abiding way—that is, an identity that is the essence of the person. This highlights a significant tension in concepts of identity—identity as essence or identity as construct—and in identity politics—claims based on an essential identity or claims based on contesting the dominant meanings attached to an identity.

This tension suggests some of the limitations of constructionist approaches to identity, inequality, and politics. First, while new social movements have shown how apparent essences naturalize injustices and locate these in the "nature" of the groups concerned, the rejection of essence is not universally beneficial. Second, constructionist approaches deflect essences rather than wholly undercut them. Third, constructionist approaches do not in themselves ensure that responsibility for inequalities will be located in social contexts rather than in individuals. Finally, these movements are typically concerned with a single identity and do not account well for the relationship between the multiple identities an individual might possess. Conceptual and political interventions that follow the work of Kimberlé Crenshaw and call for attention to the intersectionality of identity categories have made a major contribution to addressing this last problem; but, with a range of conceptual approaches to these categories, intersectionality does not necessarily resolve these other problems.

Poststructural approaches to theorizing identity have offered a significant response to the problems of constructionism by foregrounding language and meaning, in particular as this is organized in bodies of knowledge, or discourses. A key argument made by poststructural thinkers such as Jacques Derrida and Hélène Cixous is that identity categories function as binary pairs where sociocultural meaning is set in hierarchical relationships: man/woman, White/Black, heterosexual/homosexual. There are two key points here. One is that while these binary pairs are hierarchical, they are mutually dependent; the meaning of each member of the binary depends on the other. This suggest the second key point—the meaning of the dominant member of a binary is suggested by what it is not, the subordinate other against which it is compared and over which it asserts itself; man is *not* woman. This exposes the fact that meaning is constantly deferred as further hierarchical pairs are recognized: phallus/uterus, hardness/softness, rationality/emotion. All this involves a fundamental challenge to the idea of an abiding identity—the "postmodern" self is "decentered." In this framework, the individual who is self-knowing and reflexive is produced by the knowledge about that individual and about individuals and populations that circulate in particular sociohistorical contexts. These knowledges are linked to and implicated in relations of power, and they are simultaneously individualizing (Michel Foucault's anatomo-politics) and totalizing (Foucault's bio-politics).

In this conceptual framework, identity categories are parts of the discursive repertoires that make and/or reject particular sorts of individuals. According to Foucault, the person is *subjectivated*; she or he is made subject to relations of power and simultaneously made as a subject. The subject's sense of self—his or her subjectivity and self-identification—depends on being recognizable to, and being offered recognition by, other subjectivated subjects and subjectivating discourses. Judith Butler extends this idea by considering the way "performatives"—utterances that make the thing that they name—make particular sorts of subjects. If we see the classifications that make up identity categories as performatives, we see that "girl" does not describe the girl; it makes her a "girl."

The move from identity to the subject signals a significant conceptual and allied political shift. This subject is subjected by and in relations of power, but she or he can also engage in performative politics that resist, and shift, the discourses that constrain herself or himself. This subject can act politically, but within the constitutive constraints of the discourses and relationships that offer him or her recognition. A performative politics pushes at the limits of recognition as it troubles and misappropriates performatives and insists on subordinated and silenced meanings. In queer politics, the issue is not "who" we *are* but what we *do* as we engage in practices that might *undo* the apparently self-evident identities imposed on us through the performative.

In education, this leads to conceptual and empirical research, including action research, which interrogates how the constraints of normative identity categories create educational advantages and disadvantages, and experiments with ways in which these normative modes and subjects can be exceeded and unsettled. These poststructural politics have supplemented the identity politics associated with new social movements, at least at the leading edge of theory and activism. Yet liberal pluralist approaches to identity and equality that make claims to inclusion and recognition inevitably create a new "outside." These approaches continue to dominate policy and mainstream politics, as

well as common sense. And poststructural politics are vulnerable to reappropriation by these liberal pluralist approaches.

In a move that further unsettles identity and sidesteps these reappropriations, the work of Gilles Deleuze suggests a politics that is antisubjectivation. This sees subjectivation as part of the assemblage of forces that produce social formations. This means that identity politics are already contained and leads Deleuze to think about other political forms including "lines of flight" and "becoming-revolutionary." Perhaps conversely, Judith Butler has turned her attention to the binary of the human and the not human. In the context of the War on Terror, she has asked whose life is recognized as human and whose life and death are recognized as "grievable," to understand how human life is constituted as precarious and how for some recognition as human is foreclosed. She suggests a politics that builds new collectivities concerned with the constitutive force of forms of governance. Current theoretical and popular concerns are also reengaging the biological and material. New Materialism takes up Deleuzian ideas to foreground the affective and bodily as well as the productive forces of nonhuman matter and objects. At the same time, neuroscience and genetics renaturalize the characteristics of individuals and population groups that constructionist theory and poststructural politics have sought to radically unsettle. While New Materialism and neuroscience have vastly different intellectual histories and agendas, they share a rejection of the discursively constituted subject as the central concern, agent, or locus of action. While the productive force of objects is unlikely to move to the core of public thinking, neuroscience and genetics are almost certainly going to be the crucible in which struggles over who we are and who we get to be are fought in the coming years.

Deborah Youdell

See also Apple, Michael; Critical Race Theory; Ethnicity and Race; Feminist Standpoint Theory; Gender and Education; Postmodernism; Social Constructionism

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IDEOLOGY

The term *ideology* refers to a system of ideas and beliefs that is dominant within a group or society, and that affects most if not every sphere of social interaction and organization within it—political, economic, scientific, educational, and cultural. Thus, the Nazis had an ideology, and so did the Communist Party in the former USSR (*Union of Soviet Socialist Republics),* and so, too, does the "Tea Party" on the right and the Democratic Party on the left in American politics. The term evolved during the last decade of the 18th century and has grown to have a wide range of epistemological, theoretical, and historical meanings and interpretations.

The origins of the concept ideology can be traced to 18th-century French philosophical thought. The term *idéologie* ("ideology") was coined by the French philosopher Destutt de Tracy in 1795 to

define ideas that were to be used in clarifying and improving public debate; in particular, he wanted to provide the necessary rational foundation for the critique of the dominant intellectual and political traditions that defined his era. He created the term by combining the Greek *idea* ("form") and *logos* ("knowledge"). During the 19th century, *ideology* was used by numerous philosophers and social thinkers in Europe, and the term now has numerous meanings and interpretations. Terry Eagleton (1991) refers to 15 possible senses of "ideology"; accordingly, on his account, the term *ideology* is difficult to define precisely, since it should be perceived as a text, woven of a tissue of different conceptual strands. Within this multiplicity of meanings, however, one stands out—the concept of ideology is closely connected with power, with domination, and with control and justification of a political system. It should be apparent that educational institutions play a significant role in promulgating a society's dominant ideology (see the work of Michael Apple)—and under some circumstances in fostering awareness and generating resistance (the work of Paulo Freire is a good example here).

The core sense of the term is quite apparent in Marxist and neo-Marxist writings where, from a class conflict and structural-functionalist perspective, "ideology" refers to a core set of ideas and values that consolidates and legitimates the existing economic system and relations between social classes. The main function of the ideas constituting the ideology is to maintain the status quo of the economically, socially, and politically stratified society.

Ideology in Marx

In the works of Marx and Engels, especially in *German Ideology* (written in 1845–1846 but published for the first time in 1932 by the Marx-Engels Institute, Moscow), the term *ideology* was defined as the "production of ideas, of conceptions, of consciousness" (Volume 1, Part I, A) and as the ideas of the ruling class: "The ideas of the ruling class are in every epoch the ruling ideas" (Volume 1, Part I, B). The term *ideology* also was linked to "false consciousness," or an erroneous perception of reality (which, of course, includes social arrangements and organizations)—in other words, Marx recognized that it was functional for the ruling class to promulgate "false consciousness" in individuals in the subordinate classes, by getting them to believe the accounts, arguments, and justifications that were part of the society's ideology. In a Marxian sense then, ideology signified a new way of explaining how the structure society—its social classes, institutions, and so on—had originated and had been maintained.

Ideology in Gramsci

Antonio Gramsci (1930), the Italian Marxist philosopher and political theorist, furthered the development of the concept of ideology by introducing his concept of hegemony, wherein the political power of ideology as a justificatory system of ideas is based on consensus rather than force or coercion exerted by a hegemonic, ruling class. The subordinate classes for some time had (in Gramsci's view) consented to their own domination rather than having been forced or coerced—the ideology had become accepted as painting a true picture of reality rather than being seen as a tool of oppression used by the ruling or hegemonic class. Eagleton (1991) suggests that Gramsci was "an historicist Marxist who believes that truth is historically variable, relative to the consciousness of the most progressive social class of a particular epoch" (p. 121). However, Nicos Poulantzas (a structuralist Marxist) argued that the nexus between the dominant ideology and a hegemonic class is indirect: It passes through the mediation of the total social structure, where the dominant ideology *reflects* that unity rather than *constituting* it. (It is worth noting that there are similarities with Plato's thought here; in his *Republic*, the ruling elite, the Guardians, justify the stratification of the society into three classes by promulgating a "noble lie," the myth that individuals are born with one of three metals in their character; at first, this story is greeted with disdain, but within several generations, it becomes accepted as a true account. It seems as if Plato not only hit on the notion of a justificatory ideology but also foresaw Gramsci's point about this eventually not having to be promulgated by coercion.)

Ideology in Mannheim

Mannheim (1936) used the term more systematically in his *Ideology and Utopia*, where he attempted to analyze the nexus between ideology and social relations, with reference to social classes. Mannheim used the term *ideology* to highlight the ideas that support the status quo of a given society. Mannheim has shifted the meaning of the term to include both "general" and "total" ideologies and argued that all ideologies derived from society and social interaction.

Ideology in Adorno and Marcuse

Theodor Adorno (1973), from the Frankfurt School of critical theorists, attempted to find and locate the essence of ideology by reexamining Marx's theory of commodities and the concept of exchange value. By focusing on the self and identity, Adorno and other critical theorists at the Frankfurt School maintained that identity was the "primal form" of all ideology (Adorno, 1973, p. 161). Similarly, Herbert Marcuse (1964), in his classic *One-Dimensional Man*, argued that commodities define one's social identity, followed by "absorption of ideology into reality" (p. 11), and that "the people recognize themselves in their commodities; they find their soul in their automobile, hi-fi set, split-level home, kitchen equipment" (p. 9).

Ideology in Althusser

The French Marxist philosopher Louis Althusser (1972) developed the concept of ideology further. In defining the term *ideology,* Althusser, influenced by Jacques Lacan, a noted French psychoanalytic theorist, suggested that ideology does not reflect reality as it exists but represents "the imaginary relationship of individuals to their real conditions of existence" (Althusser, 1972, p. 162). This implies that individuals, as social actors, receive their knowledge of who they are from how others respond to them. Lacan's seminal principle of "the dialectic of recognition" (between imaginary and real) influenced Althusser's redefinition of the term *ideology*. He argued that ideology controls individuals and societies through repressive state apparatuses, or ideological state apparatuses, consisting of major agencies of socialization (e.g., political education, religion, the family, the legal system, culture, and the mass media).

Ideology in Jameson

The more recent poststructuralist and postmodern reinterpretation of the term *ideology* is in the work of Fredric Jameson (1991). He, like other neo-Marxist theorists, was influenced by Jacques Lacan's distinction between reality and "the Real" to understand "ideology." He redefines ideology as "the representation of the subject's imaginary relationship to his or her real conditions of existence" (Jameson, 1991, p. 51). He argues that there are numerous ideologies or ideological dominants. Applying Raymond Williams's (1977) typology of ideologies—residual (traditional), emergent (new), and dominant (existing)—Jameson advocates such a model as necessary for a better and more coherent understanding of ideology as a cultural dominant.

Ideology and Its Functions

As a result of the rapid economic, political, and social change that takes place when society is in flux, individuals experience a crisis of identity and look for people or symbols that offer security, safety, and a sense of belonging. In such cases, the ideology can offer such individuals a new sense of identity and belonging, as it did for former citizens of the USSR after its collapse in December 1991 (see Function 5, below). The functions of ideology can be summarized as follows:

1. The first and defensive function of ideology, as the process of legitimation, as "meaning in the service of power," and as the "ways in which meaning serves to establish and sustain relations of domination" (Thompson, 1990, p. 5), is to legitimate, justify, and consolidate the power of a dominant social group or class.

2. The second function, in terms of Marxist and neo-Marxist reproduction theories, is the continual reproduction of economic relations, to maintain the continuous dominance of the ruling class.

3. As described by David Easton (1965), a third function is to offer individuals a sense of identity and belonging by providing "articulated sets of ideals, ends, and purposes, which help the members of the system to interpret the past, explain the present, and offer a vision for the future" (p. 290). Easton explains that ideology can be used as "ethical principles that justify the way power is organized, used, and limited and that define the broad responsibilities expected of the participants in the particular political relationship" (p. 292).

4. The fourth function of ideology, as "the integrated assertions, theories, and aims constituting a politicosocial program" (Geertz, 1964, p. 47), is used by leaders to justify their actions and policies and to imbue them with the values of truth and justice.

5. The fifth function of ideology, as political, economic, and cultural beliefs, is to offer a universal set of core values that help create a sense of consensus in the nation-building process and a sense of shared identity.

6. The sixth critical and future-oriented function of ideology is to give meaning and a sense of purpose to alternative groups challenging the state.

Joseph Zajda

See also Apple, Michael; Critical Theory; Freire, Paulo: *Pedagogy of the Oppressed* and Critical Pedagogy; Marx, Karl; Plato; Reproduction Theories

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Immigrants, Education of

An immigrant is a person who has consciously decided to leave his or her country of origin and take up residence elsewhere, namely, a country of settlement, with the view to acquiring legal status and employment. Global markets and knowledge-based economies, and also political oppression and famine, are important driving forces of immigration around the world; but other motivations include marriage, family reunification, cultural affinity, and the pursuit of higher education. Though expressed in different forms, in the host countries immigration policies have to varying degrees of success endeavored to promote within immigrants strong cultural and national identities favored by the majority group.

Immigration can be observed on all continents, though here the focus will be exclusively on immigration as it occurs in the Western hemisphere. This focus is adopted because patterns of immigration more routinely move from East to West (and South to North) and because it undoubtedly is in the West that the most elaborate and varied responses to immigration have transpired and continue to do so, particularly in the educational sphere. Nowhere have immigration and its relationship to education been more exhaustively studied than in the United States, for reasons that will be obvious: Owing to its enormous size and population, and also its founding myths and ideals, for millions the United States continues to be the land of immigration par excellence. Accordingly, migration and immigration studies elsewhere borrow heavily both from theory and from data generated in the United States. Nevertheless, migration and immigration studies have become a discipline in their own right in Australia, Canada, New Zealand, and most European countries. This entry discusses theories about assimilation and acculturation, educational efforts to integrate immigrants, and theories about immigrant students' performance in school.

Though vocabulary choices sometimes vary, particularly between Europe and North America (the former preferring the language of *integration*), two central concepts warrant special attention: assimilation and acculturation. Classic *assimilation* theories postulated four distinct phases: contact, competition, accommodation, and ultimately assimilation (implying a jettisoning of one's previous cultural attachments in favor of the dominant norms). All host societies reasonably expect immigrants at a minimum to adopt a working knowledge of the dominant language, to embrace its laws and many of its cultural values, and finally to contribute in various ways to the local economy. But historically, assimilation often has entailed concerted efforts to discourage minorities from retaining their language, culture, and religion and the expectation that minority groups will integrate into the mainstream.

Classic assimilation theory, long portrayed as a straightforward linear process, is now passé. Groundbreaking work in the early 1990s by Portes and Zhou (1993) provided researchers with a

modified version they dubbed "segmented assimilation," and this model now dominates immigration and migration studies. The authors argued that adaptation to immigration was a two-way process; both the immigrant communities and the mainstream society undergo change. Furthermore, in adjusting to their new circumstances, immigrants and their children avail themselves of a variety of adaptive strategies. Some, partly owing to their skin color, social class background, language proficiency, and educational attainment, experience upward mobility by gradually assimilating into the mainstream, with many adopting middle-class norms. Others find ways of adapting not through assimilating into the mainstream but rather through "selective acculturation," entailing solidarity with one's own immigrant community or ethnic group (Portes, Fernández-Kelly, & Haller, 2005; Zhou, 1997).

Acculturation refers to "the dual process of cultural and psychological change that takes places as a result of contact between two or more cultural groups and their individual members" (Berry, 2005, p. 698). Though a great deal of variability can be observed, acculturation involves mutual adaptation and accommodation; it may also involve "reactive" elements. In other words, acculturation does not inevitably entail yielding to the dominant culture; it can also lead to more pronounced identity expressions that involve recovering, or even discovering, attachments that stand in contrast to mainstream cultural norms. For example, ethnic or religious identities may solidify and strengthen—rather than diminish over time—as part of the acculturation process. So while groups may accept and even excel at many external features deemed important for fitting in with the society of settlement, among them educational and economic success, strong cultural identities and attachments to the country of origin may even be accentuated as groups navigate their way in their adopted homeland. In some cases, customs and traditions are passed down for many generations without losing much of their cohesive function, even as younger generations feel less attachment to the country of origin, increasingly adopt the dominant language, and may either discard or transform other cultural practices.

Which processes occur and how they unfold will depend in part on the degree of conflict between the immigrant communities and the host society; owing to linguistic, cultural, religious, and sometimes social class differences, both conflict and disadvantage can arise that may or may not attenuate over time as immigrants adapt to mainstream norms. For example, in schools, a number of misunderstandings may occur or discriminatory actions taken against certain minority groups that initially produce failure. To the extent that members of a group experience discrimination and identify with other—perhaps indigenous—stigmatized groups, one may speak of "dissonant acculturation" or "cultural discontinuity" in terms of a downward spiral, the result often being stigma, disadvantage, and even social exclusion. Of course, none of these outcomes are automatic. Much depends on the institutional features and prevailing attitudes of the host society, the characteristics of the group in question, and, of course, the personal traits and motivations of individuals. Whatever the case, strategies of adaptation for immigrants to new contexts is inevitably a two-way street. Moreover, irrespective of the challenges and hurdles, most immigrant groups have proven quite proficient at adapting to their country of settlement to one degree or another.

Educating Immigrants

The challenges and opportunities associated with the education of immigrants predate modern school systems, though it certainly can be said that support for public schooling grew—for example, in Canada and the United States—as dominant (read White, Anglo-Saxon, Protestant) groups came to see the importance of integrating masses of disparate origin. Educational responses to the children of immigrants over time have been varied, and many responses are indistinguishable from efforts to address other minority groups. In North America, the rapid expansion of immigration encompassing immigrant and refugee populations from around the world, particularly since the 1960s, has led to a number of structural and curricular changes in schools, only some of which were explicitly aimed at immigrants. One example of a policy aimed at the children of immigrants was bilingual education, and as this increasingly fell out of favor, ESL (English as a second language) classrooms became more common. However, with few exceptions, neither has been a very effective instrument for addressing the interests or concerns of immigrants themselves. Nevertheless, most parents strongly prefer that their children learn to master the dominant language, as a means of getting ahead (Glenn, 1996; Olneck, 2009).

In both Europe and North America, various efforts have been made to implement intercultural encounters and to revise historical narratives to

make them more inclusive of the stories of indigenous and immigrant minorities, and in these ways promote "intercultural awareness" or "culturally responsive" teaching. Yet notwithstanding lip service given to multicultural goals at the level of policy, on the ground, there is very little evidence to suggest that alterations to the public school curriculum amount to much more than window dressing and stereotypical gestures (e.g., occasional celebrations of different cultural attire, food, and music). Where educational responses are more substantive, these often are in private contexts that have fewer curricular constraints and enjoy strong community support. The lack of substantive progress in both Europe and North America is due to several factors:

1. The socio-ethnic stratification of minority pupils both between and within schools
2. The sorting and selecting mechanisms schools use
3. The vagueness of learning objectives
4. Self-selection by peer group
5. The lack of adequate training of teachers and the lack of correspondence between a majority of teachers and their pupils in urban districts
6. Increased focus on testing and core subjects
7. Parental resistance
8. Severe budgetary constraints

Whatever the drawbacks and unsettled disputes, the first generation of immigrant children continue to grow up learning the language of the host country at school (to be sure, some better than others), though many continue to speak the language of their parents at home. For many children of immigrants, there is a dual frame of reference and a strong motivation to succeed given the sacrifices their parents have made. Many may even experience school more positively than other minorities actually born in the country. Meanwhile, others find themselves caught in a cultural dilemma: Unable to identify with the host country (except in crude consumerist terms) and also unable to identify with the country of their parents, with its traditional customs and folk religion, some experience great difficulties in developing the feeling that they belong (Bankston & Zhou, 2002; Matute-Bianchi, 1991; Perlmann, 1997). For some this leads to new hybrid identities, while for others the combination of disaffection and school failure creates a set of problems that are manifest more in some groups than in others.

Theoretical Responses

Many theoretical approaches applicable to the education of immigrants were not specifically developed with immigrants in mind but rather were focused on indigenous minority groups or descendants of slaves. Attempting to explain the reasons why certain minorities were falling behind at school, theories of cultural deficit in the 1960s quickly yielded to cultural difference alternatives, stressing diverse forms of cultural capital that are simply not valued in school. Others attempted to explain differential treatment of various working-class and minority groups in schools using the tools of Marxism, the resultant analysis being that schools reproduce the social-class backgrounds of their pupils owing to the organizational features of schools, the middle-class expectations of teachers, and the sorting and selecting mechanisms schools use. Eager to cast aside some of these rather determinist forecasts for working-class and minority students, and moreover, inspired by the work of Paulo Freire, resistance theories resurrected the centrality of *agency*. More recently, in response to high levels of segregation, a theory of "voluntary separation" has been developed, arguing that spatial concentrations of even stigmatized minority groups—many of which began as immigrant communities—can turn their segregation to their advantage when they resist, rearrange, and reclaim the terms of their segregated experience. Here, the success of immigrant and minority groups explicitly does not depend on integrationist strategies but rather maintains that communities and schools can be arranged that promote important forms of equality, enhancing well-being and self-respect. Furthermore, voluntary separation can facilitate the cultivation of civic virtues that promote the good of the community (Merry, 2013).

But there can be no doubt that the work of John Ogbu has left an imprint on the field of immigrant education like no other. He argued that to make sense of why some minority groups on average perform better or worse in school, one must look at the relevant variables *outside* the school. It is the *community forces* behind these students that illuminate general patterns in school success or failure. Community forces broadly describe how different groups perceive, interpret, and strategically respond to schooling in ways that correspond to their unique histories and adaptations to their minority status.

Ogbu's work is perhaps best known for a typology he created to describe different minority

orientations to dominant culture generally and to education specifically. Though developed to explain the situation of immigrants and other minorities in American culture, his typology has been reinterpreted and applied around the world. It consists of the following categories: *semivoluntary* minorities (e.g., asylum seekers), *autonomous* minorities (self-sufficient groups that no longer face high levels of discrimination), *voluntary* minorities, and finally *nonvoluntary* minorities. Ogbu focused most of his attention on the last two categories.

Roughly speaking, voluntary minorities, namely, immigrants, experience strong academic achievement for several reasons:

a. They are seeking opportunity and are optimistic about achieving it.
b. They have a dual frame of reference, one that casts their country of settlement in a more favorable light.
c. They hold the view that obstacles encountered, such as discrimination and prejudice, are temporary and can be overcome with tenacity and hard work.
d. The orientation toward the school and other social institutions is one of "pragmatic trust," that is, schools are seen as purveyors of the knowledge, skills, language, and behaviors necessary for social mobility. Accordingly, a kind of meritocracy is internalized by this group, enabling success.

Meanwhile, *involuntary minorities* (also named "caste-like minorities") describe persons either forcibly conquered (indigenous groups) or brought against their will to an alien context (slaves and their descendants). These groups have been stripped of their primary cultural traits and forcibly assimilated. "Oppositional" orientations and patterns, on Ogbu's theory, will be commensurate with the degree of negative experiences and distrust experienced. Owing to a long history of institutional racism, their experience with discrimination, and the perception that education will not yield a payoff in the labor market, many minorities fitting this category develop oppositional attitudes toward school and, together with similar peers, may even come to see certain markers of identity (e.g., speech patterns, unrecognized cultural traits, performance, and dress) as something to be maintained rather than surrendered to mainstream expectations.

Though Ogbu's typology is somewhat fluid and has come under considerable criticism, its influence on the field of immigrant education remains uncontested and its theoretical strength lies in its comprehensiveness and cross-national applicability in explaining school success and failure among different types of minority groups. Of course, as with all theories, many exceptions to the rule can be found, and as this applies to immigrants in particular, some immigrant groups do extremely well, while others do not, notwithstanding their "voluntary" characteristics. For critics, predicting educational outcomes simply is an elusive task owing to complex identities and attachments, as well as varied structural processes and interactions in school. But critics largely agree with Ogbu that any attempt to understand school success or failure must look at what happens *in* the school as well as *outside* the school. School characteristics certainly matter: the student–teacher ratio, demographic concentrations, the organizational structure, finance schemes, leadership, teacher qualifications and expectations, mobility rates, the curriculum, disciplinary procedures, peer groups, and so on. All of these make for a complex portrait of school life. But features outside the school matter just as much if not more: neighborhood characteristics (crime rates, safety, and public services), family characteristics (educational attainment, divorce, abuse, nutrition, intimacy, social aspirations, structured free time, first language, etc.), and cultural forces emanating from the group in question. Furthermore, the immigrant status (country of origin but also destination), generational status, size of the local community, and perceived or experienced prejudice also affect the overall quality of life and influence the opportunities one may or may not have. Other variables to consider include the degree of acculturation, the language used at home, relationships with teachers, the influence of peer groups, parental beliefs, modeling, and involvement with a child's education, and finally the level of trust and assent persons experience vis-à-vis the existing opportunity structures.

Michael S. Merry

See also Assimilation; Bilingual Education; Citizenship and Civic Education; Freire, Paulo: *Pedagogy of the Oppressed* and Critical Pedagogy; Multicultural Citizenship

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Indian Religious and Philosophical Traditions and Education

Indian philosophy and religion will initially seem alien to the outsider. However, behind the initial strangeness, there are shared concerns and common issues that can help us see familiar issues in new ways. Indian philosophy and religion include traditions that have their birth on the Indian subcontinent (including present-day India, Pakistan, Bangladesh, Sri Lanka, and Nepal)—omitting the transplanted traditions (Islam, Christianity, and Zoroastrianism). Hinduism, Buddhism, Jainism, and Sikhism are major Indian religions; there are nine major philosophical schools, or *darsanas*. This entry introduces basic elements of Indian philosophical and religious thought and briefly comments on the value of Indian philosophy for contemporary educational thought. Due to space restrictions, it will focus on classical Hindu and Buddhist traditions, saying little about Jainism and Sikhism, despite their importance.

Basic Overview

In general, Indian philosophy is practical, concerned with ameliorating suffering and attaining liberation. It is a means by which people try to achieve wisdom and thereby make life better—indeed, make it in part a spiritual quest. So while one can identify characteristically religious practices in all major Indian religions (e.g., rituals, prayer, charity, and meditation), the pursuit of knowledge through philosophical analysis is taken to be itself a form of religious activity. Yet the character of philosophizing—applying careful reasoning to solve abstract puzzles regarding the coherence and justification of fundamental concepts and principles—is fairly similar in Western and Indian traditions.

Central Concepts

While there is wide diversity in the religious and philosophical traditions of India, we can identify several shared concepts. Let us briefly examine some of the most important. These terms are Sanskrit in origin.

Karma. The term literally means "action" but is usually taken to refer to the idea that actions have effects. It can be seen as a metaphysical principle but in Jainism is taken to refer to a type of substance. Karma has ramifications during one's lifetime, but the effects of one's actions are supposed to last beyond one's earthly life. Indeed, the principle of karma holds that one's actions in this life will determine the form of life in which one will be reborn.

Samsara. It literally refers to wandering but is sometimes translated as reincarnation, rebirth, or transmigration. This can be misleading because reincarnation suggests entering a new body, as though

the soul or some other nonphysical element of the person takes on a body. The trouble with this interpretation is that Buddhism denies the existence of the soul as a permanent entity. Other non-Indian traditions have embraced the idea of rebirth, but every major Indian tradition accepts a version of the doctrine. The Hindu, Buddhist, Jain, and Sikh religions all conceive of the soteriological goal of their faiths as release from samsara.

Dukkha. It might seem that rebirth is something to be looked forward to, giving one another chance to live a human life, but there is no guarantee that one will be reborn as a human being. Furthermore, the general sense is that one strives to be free from life, which is fraught with suffering, or *dukkha*. *Dukkha* can be thought of as the unsatisfactoriness of life. So the prevailing view is that birth leads to an ongoing cycle of suffering, death, and rebirth, with occasional respites of pleasure.

Maya and Avidya. *Maya* refers to illusion and *avidya* to ignorance (*vidya* means knowledge, with the prefix *a-* serving to negate). We suffer from *avidya* because we are subject to maya. Illusions lead to ignorance; in the ordinary course of events, for most of us, we take the illusory to be the real and thereby remain ignorant. In some forms of Hinduism, the problem is that we take distinctions between the self and Brahman (the source and sustainer of the universe) to be real, whereas in Buddhism the problematic illusion is that we take the self and objects in the world to be permanent existents. In both traditions, the path to liberation will partly consist in seeing things correctly.

Dharma. Literally, the term means "order" but is usually seen as representing duty. In classical Hinduism, dharma is one of the central goals of life. There are three types of dharma; one can view these as foundations of Hindu ethics. First, there is *varna-dharma*, obligations that stem from one's social class: priestly (*Brahmin*), warrior (*Kshatriya*), merchant (*Vaishya*), or laborer (*Sudra*). Second, there is *Asrama-dharma*, duties stemming from one's stage of life: student, householder, forest-dweller, and *sannyasin* (complete renunciation). A third form of dharma, *Sadharana-dharma*, applies to all people. The *Manusmriti* (Laws of Manu), a seminal Hindu text, holds there to be 10 duties that apply to everyone: steadfastness, forgiveness, application, nonappropriation, cleanliness, repression of sensuous appetites, wisdom, learning, veracity, and restraint of anger. Later, two additional duties were added: *ahimsa* (not hurting) and *bhutahitava* (general benevolence to all creatures).

In Buddhism, the Pali term *dhamma* is understood to broadly refer to the teaching of the Buddha. So someone practicing Buddhism might well say that she is practicing the *dhamma*—indeed, many prefer this way of speaking to avoid the misapprehension that Buddhists worship Siddhartha Gautama, the historical Buddha.

Principal Religions and Philosophical Schools

Three of the Indian nine philosophical *darsanas* are referred to as "unorthodox," meaning that they do not accept the ancient Hindu scriptures, the Vedas and the Upanishads, as authoritative. The three unorthodox *darsanas* are the Caravaka (Indian materialist), Jain, and Buddhist. Note that Jainism and Buddhism are simultaneously religions and philosophical schools. There are six orthodox *darsanas*: Nyaya and Vaisesika, Samkhya and Yoga, and Vedanta and Mimamsa. Typically, they are paired as above, noting some affinity between the schools. The orthodox *darsanas* are called Hindu, due to their acceptance of the Vedas, but are not individually sects of Hinduism.

Hinduism is a great world religion, with a billion adherents, but there is no unique source of the faith, as with Christianity (Christ), Islam (Muhammad), or Buddhism (Gautama Siddhartha). It did not spring from a single source that was interpreted differently by different groups; rather, the term *Hindu* was originally applied to all indigenous religions from the subcontinent, including Jainism, Buddhism, and Sikhism. Later, it was applied to the religion we now think of as Hinduism.

Hinduism

While somewhat controversial, the best available historical and archaeological evidence suggests that Indian civilization is born of a meeting between two cultures: the urban and sophisticated Indus civilization, including the cities of Harappa and Mohenjo-Daro in the Punjab region of present-day Pakistan, and the agricultural Vedic culture, probably migrants from central Asia.

Vedic culture became dominant throughout most of the Indian subcontinent by the 4th century BCE. Its religious traditions were highly ritualistic, emphasizing maintenance of the natural order

through *yajña*, a fire sacrifice. Brahmin priests, who became very powerful owing to their knowledge and their purity, performed the rituals. In Vedic culture, there were three aims of life: (1) *dharma* (duty), (2) *artha* (success), and (3) *kama* (pleasure); and the *varna* system seems to have been embraced in the "Hymn to the Cosmic Person," which is in the earliest Vedic text, the Rigveda. The *varna* system got distorted into the caste system, with which India still struggles to some extent, although it is illegal. Outside all *varna* are the outcasts, variously called untouchables, Harijans, or Dalits. The *varna* system has religious roots, but the caste system, with more than 2,000 castes, is at best a system for the social and economic organization of the society.

Against this political, social, and religious background, the Upanishads were composed. The Upanishads advance a new vision, with a fourth ideal of human life, *moksa*, to go along with *dharma*, *artha*, and *kama*. The idea is that we attain *moksa* in liberation from *samsara*. This is achieved through deep knowledge of one's self, which is further seen as identical to Brahman, or Ultimate Reality. The basic insight is that *atman* is *Brahman*. One's deepest self, atman, is identical to Brahman. This discovery leads to further ideas: If this identity is true of one's atman, then it is likewise true of all other atman, including that of, say, Justin Bieber. So Justin Bieber too is identical with Brahman, and this implies that each person in her deepest self is identical with Justin Bieber in his deepest self. So the Upanishads suggest that despite the appearance of difference, there is a fundamental, deeper unity. Samsara is the consequence of not seeing the fundamental unity of all that exists. The Upanishads are clearly at odds with the prevailing Brahminism: If salvation is a matter of knowing one's deepest self, then what need is there of the fire rituals and of the priests who perform the rituals? One of the challenges here is that the Upanishads seem to propose an ethic of inaction; this problem is answered in the Bhagavad Gita.

The Bhagavad Gita at once presents an engaging story as well as a new conception of Hinduism. The story is of Arjuna, who is about to enter a battle to take back his rightful kingdom. Yet he is apprehensive because fighting will surely bring death, including to relatives on the other side. This is a moral dilemma, with two unattractive options, but fortunately his charioteer is the god Krishna! The advice of Krishna is very useful in helping one see a distinctively Hindu view of morality. First, within the context of samsara, the worries over killing are exaggerated. Those we kill are to be reborn, so the consequences of killing are not so bad. Furthermore, in Arjuna's case, indeed the issue is clear: He is a Kshatriya, a warrior whose dharma is to fight this just battle. However, Arjuna must fight solely because it is his dharma, not selfishly for attachment to the fruits of his work. This idea of *work without attachment* transformed Hinduism, probably in response to the Buddhist and Jain movements at that time.

Krishna goes on to suggest three paths to liberation: One is *jnana-yoga*, the path of knowledge familiar from the Upanishads. But this path would not suit everyone; for some, the second path of *karma-yoga*, fulfilling one's *dharma* as well as *yajña*, without attachment, is best. Yet there is a third path—*bhakti-yoga*—the path of devotion to Brahman in the form of the gods. Krishna offers himself as a suitable object of Arjuna's devotion.

Hindu Philosophical Darsanas

Philosophers who take the Vedas as authoritative still have much to disagree about, and a wide range of views have developed regarding metaphysical, epistemological, ethical, and religious matters. Space precludes a complete account, but we can note central elements in the main *darsanas*.

The major form of Hindu pluralism, Vaisesika, holds that reality is constructed out of nine distinctive substances, as well as qualities and relations. Reality is composed of substances: earth, water, fire, air, ether, time, space, atman, and *manas* (or "mind"). Vaisesika is usually combined with the Nyaya *darsana* of logic and epistemology, which articulates a sophisticated view of how we can know reality. These *darsanas* suggest a kind of scientific realism regarding the world, although the details of the metaphysics are problematic.

Dualism is best exemplified by Samkhya, which recognizes two substances: *purusa* and *prakrti*. *Purusa* is nonmaterial substance with which consciousness is constituted. Consciousness is not equivalent to mind; mind, or *jiva*, is a bonding of consciousness to *prakrti*, or matter. This bonding creates individual identities, but these identities will be eliminated in *moksa*. However, Samkhya holds that individual *purusa* are nevertheless distinctive entities. Justin Bieber and I do not share a *purusa*, on this view. The Samkhya view is usually combined with the practical *darsana* of Yoga.

Samkhya dualism may appear subject to some of the problems associated with Cartesian dualism, such as the challenge of interaction, but this is mitigated because there is no problem of *purusa* causing *prakrtri* to act; nor is there a problem of conservation of energy, as there is for the Cartesian. If mind is itself part of the material world, then mind does not really interact with an entirely distinct substance; instead, mind is itself part of the material world. Consciousness is aware of *prakrti,* and this awareness needs explanation, but there is no problem of *purusa* causing the body to act—because it does not!

Third, there are monist schools. There are several Vedanta (end of the Vedas) schools; here, we will consider two of the most well known. Advaita Vedanta holds that there is but one substance, Brahman. This position is associated with the great Indian thinker Adi Shankara (about 788–820 CE). He criticized the Samkhya picture of multiple but indistinguishable *purusa* because, with no distinguishing features, there would be no reason to believe that there are multiple *purusa*. (This reasoning depends on a principle close to Leibniz's identity of indiscernibles: If X and Y have no discernible differences, then X and Y are numerically identical.) Adi Shankara held that only Brahman is ultimately real and that all distinctions are mere appearances. This means that beneath the apparent multiplicity in the world, there is unity. The apparent multiplicity is *maya*, causing *avidya* and further rebirth.

One interesting consequence of Adi Shankara's monism is that he supposes that we can think of "levels of reality." Only Brahman is ultimate reality, but it can be experienced at different levels. A drunkard sees pink elephants, but these have no reality apart from their reality in his mind. The elephants one experiences in dreams have dream reality, but on awakening one knows that their reality is limited. Then, there are the elephants one sees in Jaipur. These have a greater reality, but still they are but manifestations of Brahman. We need not quibble over whether each elephant is real—in a sense, they all are, but not equally so. Furthermore, Adi Shankara seems to be led to a form of linguistic relativity, holding that it is simply our language that creates the distinctions we experience in the world—the language precedes the distinction.

Visistadvaita Vedanta, a school developed by Ramanuja (ca. 1017–1137 CE), offers a theistic version of Vedanta. Like Adi Shankara, Ramanuja believes in one ultimate reality (Brahman), but holds that it can be experienced in two ways: as God (in personal form) or as the world. Both are real, according to Ramanuja. Ramanuja's theistic Vedanta is probably more popular with ordinary Hindu believers, but intellectuals are often more attracted to Adi Shankara's school.

In the Vedanta *darsanas*, there is conceived to be a permanent substance referred to as the *atman.* One's atman is not really distinct from Brahman but is mistakenly taken to be so; liberation (*moksa*) requires becoming completely aware of the identity of atman with Brahman. This concept of atman is one of the central distinctions between Vedanta and Buddhism.

Buddhism

While there are several traditions within Buddhism, we can identify four central beliefs. First among these is the Buddha's *four noble truths*: (1) life is characterized by *dukkha*, (2) craving causes *dukkha*, (3) it is possible to be liberated from *dukkha* (*nirvana*), and (4) *nirvana* is achieved through the eightfold noble path. The eightfold noble path provides a general ethic for achieving nirvana: right wisdom, right intention, right speech, right action, right livelihood, right effort, right mindfulness, and right concentration.

Second, Buddhists generally hold to a doctrine of conditioned arising, which holds that each event is dependent on other events. Conditioned arising implies that there are no uncaused causes, nothing that exists independently of other events—which is why Buddhists are generally atheists. Conditioned arising leads to the third central teaching of emptiness.

We can distinguish two possible views here: One view is that all aggregate objects are empty—devoid of independent existence—but there are atoms of which all aggregate objects are composed. The Abhidharma school held to this view. The second view, epitomized by the Madhyamaka school of Nagarjuna, a philosopher of the 2nd century BCE, holds that all phenomena are empty. This is radical indeed, leading to the idea that there are no real objects but that all objects are conventional constructions—more accurately, objects are series of events that we often mistakenly take to be real in themselves.

The fourth central teaching is of *anatman.* This is sometimes misleadingly referred to as the teaching of "no self." *Anatman* is the idea that there is no permanent self. Rebirth, thus, is a matter of a causal relationship between current and future events, but

there is no substance in which these events occur. A common analogy is between a flame that exists on one candle but is transferred to another (as the first is extinguished); the flame is a series of events, but there is no substance that unifies the flame as the "same flame." The concept of *anatman* is initially quite astounding, but one can find similar ideas in Western thought, including in the work of John Locke and David Hume.

Of all the Indian philosophical positions, Buddhism is most attractive to Western intellectuals, as it seems to make few controversial metaphysical assumptions and may well be consistent with some views in contemporary physics. It also does not assume a creator God. However, Buddhism is a major world religion as well as a philosophical view, and practiced forms of the religion differ from the abstract philosophical theses presented above: In some forms, there are supposed to be multiple gods, and most Buddhists accept some form of the doctrine of rebirth, making it difficult for scientific realists to accept Buddhism.

Implications of Indian Thought for Educational Philosophy and Theory

A case can be made for the importance of studying the philosophical traditions of any culture, especially those very different from one's own. Such study serves to help us become aware of our own basic judgments regarding the world and our experience of it, partly by seeing them as not shared by others or as interpreted and applied differently by others. Studying other philosophical traditions disorients the thinker, causing reflection on one's own basic assumptions regarding reality, knowledge, and value. Indian philosophy may be particularly valuable for educational theorists.

Three areas are particularly relevant here. First, concepts of the self that are developed in Indian traditions help in challenging individualism. Views of the self in Indian thought could be contrasted with Western views that stress ideals such as autonomy and self-esteem. In Buddhism, the self is taken as a kind of useful fiction, and in Advaita Vedanta, it is taken as deeply interconnected with the self of others. In neither tradition could it straightforwardly be taken as the central focus of educational practice. So Indian philosophy and religion invite us to reconsider our assumptions regarding autonomy, independence, and the development of qualities such as self-respect and self-esteem.

Second, educational practice is often taken to involve the acquisition of knowledge. Skepticism has long been a challenge in Western epistemology but is not taken seriously by many educational theorists. Furthermore, if one were to espouse epistemological skepticism, then one would likely reject the claim that education implies acquiring knowledge. In Indian thought, contrarily, knowledge is taken as an ideal, but it is extremely difficult to achieve. This is not quite skepticism—knowledge remains an elusive possibility—but it does make it odd to think of the schoolteacher as concerned with the transmission of knowledge. Knowledge or enlightenment can be seen as an ultimate goal, but the use of knowledge as a criterion by which we can select curricular content will need some finesse. Overall, a version of educational pragmatism might be preferred.

Third, religious education is highly problematic for educators concerned about developing open-mindedness and avoiding indoctrination. However, in the Indian milieu, religion is less a matter of orthodoxy (right beliefs) than of orthopraxy (right practice). Conceiving of religion as forms of practice that lead to *nirvana* or *moksa* avoids the problem of imparting controversial doctrines as uncontroversial. One prays, meditates, worships, or performs rites as means that are tested by their power to move one forward, rather than because they express the Truth. Indeed, the Truth—if there is one—is the end point of the journey, not something taken on faith at the outset. So the religious teacher can see himself as imparting practices to the student rather than as imparting truths. These practices are refined or rejected as one moves forward; they are not intended to be sacrosanct.

This entry has focused on classical Indian thought. Little has been said of the important Jain and Sikh traditions or about more recent developments; and both Buddhism and Hinduism are highly diverse traditions that cannot be encapsulated in a short entry. Furthermore, Indian thought has modern and contemporary developments, often in response to or influenced by developments in Western thought. The Further Readings section suggests some sources to explore more recent developments in Indian philosophy. That said, it is clear that the study of Indian philosophy and religion helps us see educational philosophy in a new light.

Jeffrey Morgan

See also Autonomy; Religious Education and Spirituality

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Individual Psychology: Alfred Adler

Alfred Adler (1870–1937) was an Austrian medical doctor who founded the psychological school of thought known as *individual psychology.* Contrary to popular belief, Adler was not a Freudian or a neo-Freudian but rather one of the originators of the psychoanalytic viewpoint alongside Sigmund Freud. Although he did work closely with Freud for some time, Adler's genius required that he part ways with Freud to dedicate himself to the development of his own unique viewpoint. Unlike Freud, Adler was quite pedagogical in orientation and actively advocated for an individual psychological approach to education. In 1919, Adler opened his first child guidance clinic in Vienna. News of his template for a less authoritarian, more democratic approach to education began to spread, and he was soon invited to speak in the United States, where he would eventually move. Individual psychological education focuses on appealing to the student's creative power to embark on a cooperative journey of intellectual growth and character development.

The Basic Orientation

Individual psychology is anything but an individualist psychology. The term *individual* was chosen to stress the indivisibility of the human being. Adler's viewpoints on human development, experience, behavior, and personality are unabashedly holistic and relational. Individual psychology was a precursor to the emergence of numerous social and interpersonal approaches to psychology and pedagogy, such as attachment theory and existential-humanistic self-development theory.

Adler was ahead of his time in the sense that he was never to succumb to the lures of the so-called nature/nurture bifurcation. This is a testament to his holism. For Adler, the nature/nurture approach to human development amounted to black-and-white thinking in the form of a false dilemma. All human lives are subject to the causative influences of inheritance, social situation, and *creative power.* All three of these life dimensions are intimately intertwined in a dynamic fashion, and no one dimension is merely reducible to the other. For instance, Adler once noted in critical reference to the modern fascination with genetics and neurology that the brain is in fact the *instrument* rather than the *origin* of the mind. Thus, from the perspective of individual psychology, educators should not think about students as the mere by-products of genetics or even environmental conditions. Students are rather interactively involved beings in need of guidance in the art of living with others. The child's education is never left to fate, genetics, or the environment. At the same time, Adler did believe that the child's social situation has the strongest effect at the outset of development. Responsibility falls on the educator to appeal to the creative power or free artistic creation of the pupil. For Adler, to educate means to bring favorable social influences to bear on and to keep a sharp watch to see how the child uses all of his or her experiences of hereditary and educational influence in the event that intervention is necessary.

One should not mistakenly infer that Adler was naively idealistic about the child's potential for free artistic creation. On the contrary, he was acutely aware of the relative helplessness of the child in comparison with the adult, for which he employed the phrase *feelings of inferiority.* The desire to become

more competent and overcome feelings of inferiority has the potential to motivate the child into becoming a spontaneous and enthusiastically involved pupil so long as educators provide an environment that is caring without pampering, genuinely empowering, and inspirational. Adler held that one is only justified in speaking of the "free decisions" of a child on enlisting his or her investment in the health-conducive, cooperative aim that he termed *Gemeinschaftsgefühl*, or "social interest." According to Adler, a good teacher should do what a mother does, which is connect to the child and pique his or her *interest*. Education is a process of engaging students to ensure that they orient themselves ever outward toward the world, things, and other people.

On the whole, then, individual psychology stresses the idea that a child only really becomes a full-fledged *student* within an interpersonal field characterized by community feeling. Where the prospective student is pampered, he or she is prevented from becoming sensitive to the world outside his or her own self-interest. Similarly, an environment that places a high value on competition will only orient the prospective student in the direction of self-enrichment and self-enhancement. For the child to be transformed into a student means that he or she would have been spared the limitations imposed by self-preoccupation. As Adler noted, the best way to teach subjects is in coherence with the rest of life. Moreover, the most efficient and effective way to engage the student is through his or her favored sensory modalities. Adler held that a good teacher makes an effort to find out how the child looks at the world and which sense organ has occupied most of his attention and has developed to the highest degree.

Critique of American Education

Adler found human beings to be social creatures through and through. Accordingly, the key to a thoroughgoing education is the ability to foster a community feeling in students. For this reason, Adler believed that cooperation is the ideal outcome of a quality education rather than the vaguer ideal of love. Education is only finally successful when the child feels valuable not to himself but to the common welfare. At the same time, *real* community requires something more than mere tolerance or a blind conformity to social norms. According to individual psychological education, students should be taught *both* the subject matter and how to think for themselves. In other words, the job of schools is to increase cooperation and facilitate character education rather than intellectual growth alone. Education is responsible for not one but two outcomes: intellectual development and interpersonal prophylaxis (i.e., the prevention of social ills), for which parents, educators, and mental health professionals must all work together.

Given this twofold goal, Adler believed that American education lagged behind European education with regard to the character aspects of pedagogy. He was of the opinion that modern life had become too complicated for students to be left to their own devices when it comes to character education but the American educational system was guilty of just this sort of abandonment. As a result, Adler believed that American schools set students up for personal aggrandizement rather than authentic citizenry. In protest, Adler (1958) asserted, "We no longer wish to train children only to make money or take a position under the industrial system. We want fellow men. We want equal, independent and responsible collaborators in the common work of culture" (p. 157).

Cautions for Educators

Given the basic principles of individual psychology, Adler cautioned educators along several lines:

> Education should not be "specialized," focused on the individual to the extent that it threatens the development of social interest.
>
> Educators should use restraint when using IQ tests. Such tests should be used merely to gauge the student's vulnerable areas and initiate remediation. IQ should never be used as a means for educators to place limits on the student's learning potential and avoid taking responsibility for the student's progress.
>
> Students should not be subject to overcrowded classrooms, due to the potential for neglect and disempowerment.
>
> Educators should make every attempt to avoid having students repeat grades, due to its demoralizing effects.
>
> Educators should similarly attempt to avoid establishing separate classrooms for slow students for the same reason.
>
> Educators should become aware of the many ways in which coming from a lower-socioeconomic status home might interfere with the process of becoming a mature student.

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See also Character Development; Communitarianism; Creativity; Freud, Sigmund; Noddings, Nel; Psychoanalytically Oriented Theories of Child Development

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INDOCTRINATION

The topic of indoctrination is relevant to educational theory and philosophy as it is widely viewed as an unacceptable process that is the antithesis of education. Knowing the features of indoctrination will enable educators to guard against any extreme ideology that could undermine their students' cognitive, affective, and behavioral development, and it also enables them to avoid using indoctrinatory techniques in their own classrooms. This entry briefly discusses the evolution of thinking about indoctrination; the concepts of indoctrination, an indoctrinated person, and indoctrinatory tradition; and the fundamental differences between indoctrination, enculturation, and brainwashing.

Historical Background

Etymologically, the word *indoctrination* is derived from the Latin *docere* ("to teach") and *doctrina* ("whatever is taught"). Although indoctrination simply means instruction, it obtained a negative connotation from the start of the 20th century owing to the prevailing sociopolitical conditions. Leading educators at that time, including progressive educationists, disparaged indoctrination by associating it with authoritarian education. They were particularly wary of the confessional approach commonly used in churches, and as the century wore on, they also were aware of the techniques used to bolster adherence to the Nazi and the Communist political/social systems. (Some social critics even flirted with the hypothesis that the foundational aspects of Western liberal democracy actually were being inculcated using techniques usually associated with indoctrination; and members of minority groups have made the same charge about the ideas that have helped foster their own inequitable treatment.) Since then, indoctrination has been viewed negatively, with philosophers—especially in the 1970s and 1980s—attempting to identify a set of necessary and sufficient conditions for indoctrination (see, e.g., Snook, 1972).

The Basis of Indoctrination

It is still a matter of controversy whether inculcation of a single belief (usually but not necessarily a false one) can be done in such a way that it should count as indoctrination. For example, if a student comes to hold the unshakeable belief that Germany is the oldest democracy in the world, is he or she a victim of indoctrination rather than of bad teaching? Some philosophers say that it depends on the intention of the teacher, others argue it depends on the method of instruction that was used, while yet others would say that indoctrination is only directed at producing a single-minded commitment to large-scale systems of belief rather than single beliefs.

This last case is fairly clear-cut and is of great concern in our contemporary world: It seems that indoctrination certainly (but perhaps not only) takes place when a person unshakably holds "control beliefs" that promote a totalistic ideology. The concepts of control beliefs and totalistic ideology deserve elaboration. *Control beliefs* are the core beliefs all human beings acquire in the natural process of enculturation, socialization, and education. These are psychologically strong beliefs that are cherished and integral to a person's life and personal identity. They are usually embraced by the person without question and are most resistant (but not completely impervious) to change. While all human beings hold to control beliefs as members of a community or society, an indoctrinated person subscribes to a special type of control belief—that which promotes a totalistic ideology.

According to Robert Jay Lifton (1991), a *totalistic ideology* is an extreme ideology that has a detrimental impact on a person's cognitive, affective,

and behavioral development. Cognitively, a totalistic ideology severely limits one's intellectual horizon by constricting the person to a simplistic and binary, "we versus you" worldview. Affectively, such an ideology incites an all-or-nothing emotional alignment through intense affection and loyalty for one's leaders and fellow group members, and a corresponding hostility and hatred toward those outside the group. What follows in behavior is a mobilization of extremist thoughts and destructive emotions to protect one's ideology, advance its cause, and eradicate all obstacles and enemies at all costs. Although a totalistic ideology is likely to be found in the religious and political domains, it can potentially exist in all disciplines.

An Indoctrinated Person

To further understand indoctrination, it is helpful to differentiate an indoctrinated person from one who is not. First, an indoctrinated person clings to an extremely small number of control beliefs, and the methods of instruction that have been used with this person have been adopted with the intention of producing this single-mindedness. For example, all external stimuli that have the potential to be held as challenging the control beliefs accepted by the indoctrinated person may have been deliberately removed by the indoctrinator(s); or an artificial environment has been assured where the indoctrinated person, usually isolated from his or her family and community, is exposed to only the beliefs privileged by the indoctrinator(s). The selected control beliefs are often expressed in abstract and metaphysical terms such as *God*, *truth*, *freedom*, and *progress*.

Second, the control beliefs of an indoctrinated person are so deeply embedded and held in such a psychologically strong manner that they have colonized this person's entire cognitive landscape. By channeling all energy to themselves, these control beliefs determine the person's identity and control his or her entire life, making the person interpret *everything* through the lens of the control beliefs. These beliefs stubbornly withstand external challenge and even distort reality by filtering all incoming stimuli and reinterpreting new information in alignment with and support of one's control beliefs. This is possible because the control beliefs are fortified by a small but carefully implanted and deeply embedded cluster of intertwined beliefs.

Third, an indoctrinated person's control beliefs screen and censure new inputs that challenge, or are inconsistent with, the existing control beliefs by forming new beliefs to reject them, such as "This thought is from the devil" or "Only unsaved/evil/ignorant people think like that." Consequently, the indoctrinated person develops intense affection and loyalty for "Us" and a corresponding hostility and hatred toward "Them." The end result is that the person, feeling privileged to have been "chosen," is obsessed with removing all hindrances—human and otherwise—to fulfill the "higher calling" to protect and propagate his or her ideology.

An Indoctrinatory Tradition

Indoctrination does not occur in isolation; it requires a community of believers who share the same tradition in which the control beliefs have become embedded. There are three essential characteristics of such a tradition.

First, the intention of the indoctrinator(s) to propagate a totalistic ideology must be present. In other words, there must be a deliberate, systematic, and sustained process by the indoctrinator(s) to implant control beliefs that advance a totalistic ideology.

Second, an indoctrinatory tradition is necessarily a closed tradition that prescribes and preserves a monolithic ideology for its members. By dogmatically insisting that it has a monopoly on the truth, it trumpets its own infallibility, resists genuine learning from other traditions, and censures alternative worldviews. In the process, it fosters closed-mindedness and undermines the basic social conditions for its members to grow and mature in their thought, emotions, and actions.

Third (and in the opinion of many philosophers, most important), an indoctrinatory tradition is one that incapacitates its members' development of *strong rationality and strong autonomy.* Such a tradition may grant its members *weak rationality*, in the sense that they are capable of giving reasons to support their beliefs by assuming the truth of their own tradition. But strong rationality is denied, as its members are prohibited from examining or critiquing the tradition itself, considering alternatives, and learning from other traditions. For the same reason, an indoctrinatory tradition may grant its members weak autonomy by giving them limited freedom to order their lives within the boundary of the tradition and even to decide the extent of their commitment to the tradition (e.g., as a community leader or just a follower). But such a tradition deliberately deprives its members the strong autonomy to decide

and live a life of one's own choosing after careful deliberation of the available options. Any attempt to question one's tradition and explore alternatives is likely to be branded by the indoctrinator(s) and fellow members as "immature," "unacceptable," "evil," and "sinful," thereby making the person feel guilty and ashamed for having strayed from the "right" path.

Indoctrination, Enculturation, and Brainwashing

It should be noted that indoctrination is not an "all-or-nothing" phenomenon. Rather, it is manifested in various forms and shapes and to varying degrees, ranging from mild to strong indoctrination. It may even overlap, at times, with enculturation and brainwashing. It is therefore helpful to distinguish indoctrination from enculturation and brainwashing.

The process of enculturation involves children or new members of a community learning about a tradition's control beliefs. These control beliefs define and frame the person's worldview and identity as a member of a community. But these beliefs are not held in such an extreme way that they become impervious to doubt. A healthily enculturated person is allowed and encouraged to inquire into and even revise one's control beliefs if necessary, as well as to interact with and learn from other traditions. The willingness and ability of a normally enculturated person to question one's own beliefs, consider alternatives, and order one's life autonomously are largely absent in an indoctrinated person. The latter is one who blindly clings to a totalistic ideology; that is, the person's cognitive, affective, and behavioral growth has been paralyzed.

As for brainwashing, it is simply a term used to denote an extremely intense form of indoctrination, akin to psychological conditioning. A brainwashed person is one in whom control beliefs have been so deeply embedded and are held so strongly that the person's former beliefs have been totally replaced by the control beliefs implanted by the indoctrinator(s). By greatly imperiling a person's intellectual, moral, emotional, and social development, brainwashing dehumanizes the person—the very reason that makes indoctrination so objectionable.

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See also Autonomy; Education, Concept of; Progressive Education and Its Critics; Rationality and Its Cultivation; Religious Education and Spirituality

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Insight Learning

Gestalt psychologists proposed insight learning as an explanation for the type of one-trial learning that they observed after people or animals engaged in active problem solving. Therefore, insight learning can be contrasted with association-based empiricist philosophies and behaviorist theories that propose that all learning occurs gradually through the repetitive co-occurrence of external stimuli. A useful way to illustrate the difference between these two perspectives is to contrast two different animal learning experiments from the early 20th century, when the concept of insight learning was developed.

In his 1911 book, *Animal Intelligence*, Edward Thorndike published experiments on learning that supported the associative learning perspective. He placed cats in a closed box; this had a lever that would release the cat from confinement when pressed. He observed that the cats would try to escape by producing random behaviors around the box that would eventually, accidentally, press the release lever. Gradually, over multiple repeated trials in the box, the cats would go from random behaviors to pressing the lever purposefully when put in the box. Thorndike explained this pattern by proposing that learning occurred through the association being formed between external stimuli and the lever-pressing behavior by repeated co-occurrence.

In Wolfgang Köhler's 1925 book, *The Mentality of Apes*, he described patterns of problem solving and learning behaviors that seemed at odds with purely associative theories of learning. In his

experiments, Köhler would place food in areas of the apes' enclosure that were out of their reach. He then observed the patterns of behaviors that the apes would exhibit while trying to get the food. Köhler observed that the apes would begin problem solving by attempting previously used strategies, such as climbing up the side of their enclosure or trying to poke the food with a bamboo stick. When these strategies failed, Köhler observed that the apes would eventually stop any further overt attempts to get the food. On several occasions, Köhler observed the apes suddenly performing a new set of behaviors in a quick and purposeful manner, such as putting two pieces of bamboo together or stacking boxes on top of each other, to reach the food. When Köhler put the food in the same location on future trials, he observed that the apes would immediately use the newly discovered strategy to get the food.

To Köhler and the other Gestalt psychologists, this pattern of sudden learning could not be explained by gradual associative learning processes. In his 1935 book, *Principles of Gestalt Psychology*, Kurt Koffka articulated the difference between associative and insight learning as the difference between learning occurring in the *geographical environment* versus the *behavioral environment*. The geographical environment is an objective description of the physical objects, their relative locations, and the properties of the objects in an organism's immediate location. The behavioral environment is a subjective description of the objects the organism has perceived, its knowledge about the properties and functions of the objects, and the organism's goals or motivations. To Koffka, associative learning theories described how organisms learned new patterns and object properties from their geographical environment, while insight learning processes explained how organisms reconstruct or reorganize their prior experience to form new relationships in their behavioral environment in order to develop new adaptive behaviors.

In his 1945 book, *Productive Thinking*, Max Wertheimer explained the difference between insight and associative learning in terms of the difference between *productive* versus *reproductive* thinking. He proposed that associative theories of learning were only applicable to learning in situations where an organism is simply trying to reproduce a previously attained outcome (e.g., the cat trying to release the puzzle box door again after accidentally hitting the lever on the first trial). However, insight learning processes apply to situations where an organism is trying to produce or create a new desired outcome that it has never obtained before.

Although the terminology and focus among the early Gestalt psychologists differed, they all were describing similar key aspects that differentiate insight learning from associative learning:

1. Insight learning occurs from active and goal-directed reasoning behaviors.
2. Insight learning is the result of internal psychological reasoning processes that reorganize or restructure prior knowledge to find new adaptive and useful relationships of concepts and ideas.
3. Insight learning is only likely to occur after initial attempts to solve the problem via prior experience or behavioral trial and error have failed.
4. The new conceptual understanding and knowledge obtained during insight learning are easily retained and generalized to new situations.

The Gestalt psychologists proposed that the psychological processes that lead to reasonable, rational, and useful reorganization of knowledge play a central role in human creativity and scientific discovery. Furthermore, they believed that the educational practices based on association theories, such as repetitive drills and recitation, are not only unpleasant for students but are ineffective for fostering meaningful conceptual understanding. The insight learning perspective would propose that educational curricula involve activities that require active engagement in goal-oriented problem solving, inquiry, and discovery.

Modern cognitive psychologists have investigated insight as a problem-solving process, instead of a learning process. Information processing research has largely focused on the phenomenology of the problem-solving sequence by investigating impasse, restructuring, and the "a ha!" feeling often associated with solving new problems. This research, often referred to as an insight problem-solving research, attempts to verify whether the type of discontinuous solving process proposed by the Gestalt psychologists actually exists and investigates the nature of the cognitive processes involved in restructuring. However, very little modern research has focused directly on the learning aspects of the Gestalt insight learning theory. However, some of the underlying insight learning mechanisms that were originally proposed by the Gestalt psychologists have been investigated by researchers studying

anagogical transfer, comprehension, and inquiry/discovery–based learning.

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See also Associationism; Behaviorism; Learning, Theories of

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Intelligence: History and Controversies

Intelligence is a term commonly applied to the capacity of humans (and sometimes that of other higher mammals) to accomplish a wide range of mental tasks, including comprehension, analysis, abstraction, and prediction among others. It is named as a key factor in learning and success in the academic, occupational, personal, and social domains. Parts of Plato's great work *The Republic* can be read as foreshadowing the modern interest in intelligence as an account for success. He conceived the citizens of his utopia as having different capacities, and only a few individuals—he included both men and women in this group—were able (among other things) to engage in the deep, abstract thought needed to excel in the study of mathematics and metaphysics, which would equip them to become the Republic's leaders.

Yet a person's "amount" of intelligence is not something that can be located and measured directly. Rather, it must be inferred from how well a person performs in a given setting thought to require intelligent behavior. As settings differ, so do ways of conceptualizing intelligence. This entry summarizes the approaches that have been used to conceptualize intelligence, related philosophical perspectives, and implications for education. The entry concludes by summarizing the controversies surrounding intelligence testing.

Intelligence as Test Performance

Psychologists commonly measure intelligence using tests designed to assess reaction time, attention and memory, analogical reasoning, or basic quantitative, spatial, or verbal abilities. Intelligence tests differ from achievement tests typically used by educators in that the former are believed to measure what someone *can do* as a result of innate capability and the latter measure what someone *has done* as a result of education and experience. Examples of widely adopted intelligence tests include the Wechsler series (e.g., the Wechsler Intelligence Scale for Children) and the Stanford-Binet Intelligence Scales, and their metric is known as an intelligence quotient, or IQ, score. In educational settings, intelligence tests are used to diagnose learning or other cognitive disabilities. Achievement tests, in contrast, are used to assess individual academic progress, to track instructional effectiveness, and to predict future academic success. The earliest intelligence tests were performance-based and administered one-on-one, requiring examinees, for example, to demonstrate their sensory acuity or attentional capacity to the examiner. Individual testing still is used for diagnostic purposes; however, group testing via paper-and-pencil or computer is more commonly used to conduct intelligence research.

Conceptualizing intelligence as test performance arises from the observation that scores on mental tests tend to positively correlate with one another, such that people who score highly on one test also score highly on other tests. Intelligence is thought to be the core mental capacity that accounts for this consistency in performance, although theories differ on how many dimensions, or factors, this capacity comprises. Single-factor theories posit that one capability (sometimes referred to as *g*, or general intelligence) underlies performance on all mental tests. This approach to conceptualizing intelligence may trace its philosophical roots to Plato and Aristotle, who saw the intellect as an eternal, immortal capacity to grasp ideals, which drives knowledge and understanding. On the other hand, multiple-factor theories posit that humans have a variety of basic mental capabilities, but these theories differ on how many abilities they propose and whether the abilities are independent of one another or can be hierarchically organized under general intelligence. The

philosopher Immanuel Kant's 12 categories of understanding, which he believed gave order to sensory experiences, represent a faceted conceptualization of intelligence that is consistent with multiple-factor theories.

A limitation of factor theories of intelligence is that they fail to define what exactly intelligence is. For example, the capability underlying test performance has been conceptualized as "mental energy," but this definition does not explain why one person scores well on a test and another person scores poorly. Millennia ago, in attempting to explain poor judgment, Plato likened the mind to a block of wax whose properties affected the quality of the memory "stamp" impressed on it and consequently affected recognition and performance. In *The Republic*, Plato accounted for differences in abstract thinking by proposing that utopian citizens had one of three "metals" in their natures—bronze, silver, or gold—and that there was a tendency for this metal to be passed on to their children.

Cognitive psychologists have attempted to address this issue by investigating the tasks that constitute effective performance on intelligence test problems. For example, they first broke down problems into component activities, then provided training on each component, and finally evaluated which training had an impact on overall test scores. Others attempted to identify which basic cognitive processes, such as the ability to quickly inspect the difference between two stimuli, were associated with overall test performance. Biological psychologists have explored the correspondence between test performance and measures of the speed and efficiency of cortical processes, such as electrochemical activity and blood flow. After decades of research, disagreement remains as to what basic mental capacities underlie intelligence test performance and the degree to which intelligence test scores represent other factors such as intellectual and physical environment and self-regulatory skill.

Despite a variety of approaches to improve or "teach" intelligence, there is little evidence indicating that intelligence test scores can be changed substantially or in any lasting way. Indeed, intelligence tests are thought to assess an innate capability and so are designed to produce the same scores, test after test. Dispute over what this capability is and reliance on such tests to measure it constrain the options for those interested in enhancing intellectual function. For this reason, conceptualizing intelligence in terms of test performance has limited utility in education beyond diagnosing cognitive disability.

Intelligence as Higher-Order Thinking

Others have conceptualized intelligence not as a fixed mental capacity but as a form of developing expertise. According to this perspective, intelligence tests capture one aspect of cognitive expertise but not the full range of mental capacity. Rather, intelligence constitutes one's ability to accomplish activities such as explanation, reasoning, problem solving, critical or scientific thinking, and reflection. Intelligence involves basic mental capacity, but a person becomes more intelligent as knowledge is acquired and organized into complex networks that enable higher-order thinking.

The work of the developmental psychologist Jean Piaget exemplifies theorizing about how knowledge is acquired and organized to enable higher-order thought. He posited that intellectual development occurs in a progression of four stages from birth to early adulthood: (1) the sensorimotor stage (birth to approximately 2 years of age), (2) the preoperational stage (approximately 2–7 years of age), (3) the concrete operations stage (approximately 7–11 years of age), and (4) the formal operations stage (approximately 11 years of age). Piaget thought that advancement through each stage involved acquiring new knowledge from the world, integrating that knowledge into existing ("logical") structures, and forming new structures when preexisting ones were deficient. For example, a pediatrician who encounters difficulty convincing otherwise compliant parents to get an HPV (human papillomavirus) vaccine for their children may have to expand her understanding of the factors influencing families' medical decision making to include religious beliefs. Modern, neo-Piagetian theorists ascribe a more active role to the person and the environment in intellectual growth, which they assert is promoted via experimentation and inquiry and shaped via culture and interpersonal interaction. Stage theories have drawn attention to the important matter of how intellect develops; however, a limitation of these theories is the fact that intelligent behavior does not grow in a strict, stagelike fashion.

When we see intelligence as knowledge enabled, we recognize that philosophers who study epistemology—the nature and scope of knowledge—also wrestle with the issues of what constitutes intelligent behavior and how it develops. Perhaps the branch

of epistemology that currently is most widely recognized by educators is constructivism, the philosophy that knowledge is actively constructed, rather than something that exists in the world waiting to be discovered. Constructivist ideas underlie the student-centered instructional approaches used in many classrooms today, such as inquiry-based learning and experiential learning.

The acquisition of knowledge and higher-order thought also has been studied by cognitive scientists, who test their theories of mind via computational models. They create computer programs to represent their theory of cognitive architecture, and if the programs accurately reproduce human performance (e.g., make the same kind of errors in mathematical computation), the theory is judged to be adequate. John Anderson's cognitive architecture, initially called Adaptive Character of Thought (ACT), and associated phase theory of skill acquisition, is a salient example of this approach. Anderson's theory posited that skills become automatic through a process of first learning the rules of the task, then developing procedures for executing the rules, and finally practicing the procedures until execution is rapid and consistent. Some aspects of higher-order thinking are not automatic, however, and the ACT theory has been augmented by Anderson and several other colleagues to investigate natural language processing and complex tasks such as piloting an aircraft. The ACT theory and its extensions have been used to build computer-based intelligent tutors for high school mathematics. Other cognitive architectures, such as Soar and EPIC, also are used to investigate the nature of intelligent behavior through computational modeling.

The computational approach to conceptualizing intelligence may trace its roots to the logician Alan Turing, who, in 1950, posed the question "Can machines think?" and argued (controversially) that successful imitation of human behavior constituted machine intelligence. Philosophers of artificial intelligence have debated the possibility and nature of machine thought for decades, reflecting contrasting views about the embodiment of the human mind and what constitutes intelligent behavior. Although humans are not machines, inquiry into what constitutes thinking illuminates the nature of intelligence in ways that may support teaching and learning.

Conceptualizing intelligence as higher-order thinking implies that intelligent behavior can be developed through instruction that promotes knowledge acquisition and organization. The widespread application of constructivist philosophy to curriculum design at all levels of education indicates general acceptance of the goal to improve higher-order thought as well as the belief that this is possible. Successful computer-based tutors based on computational models of cognitive architecture support this idea. There are many challenges to reaching this goal, including the difficulty of assessing higher-order thinking in a reliable, valid, and feasible manner, the prioritization of lower-order knowledge assessment on high-stakes examinations, and the diversity in both student and teacher readiness to improve thinking skill. Although there have been several empirical studies demonstrating the success of particular instructional and study strategies in improving higher-order thinking, it has proven much more difficult to successfully implement and evaluate these strategies broadly.

Intelligence as Social Function

The development and expression of intelligence need not be seen as a solitary act that occurs solely inside an individual's head. Conceptualizations of intelligence as a social function posit that intelligent behavior constitutes successful participation in the activity of a group, culture, or society and that the development of intelligence occurs through social interaction.

The ideas of Lev Vygotsky generally are taken as the origin of social conceptualizations of intelligence (although there is also a case to be made for John Dewey and the American pragmatists). Vygotsky proposed that people influence each other's intellectual development through the use of *psychological tools* such as terminology, visual aids, physical demonstrations, and so forth. For example, a professor of education may help preservice teachers understand the nature of children's reading difficulties by showing video-recorded snippets of students committing different types of reading errors, using specific terminology to refer to each error type, and providing a framework that links error types to their cause and optimal remediation strategies. Vygotsky coined the term *zone of proximal development* to refer to the space in which psychological tools are employed to improve an individual's capability to perform. The zone of proximal development is the difference between what a person can do unassisted and what can be done with the help of psychological tools. Importantly, another person need not be physically present to achieve socially enabled intellectual

development; psychological tools such as textbooks and interactive media can embody the contributions of others to the learning experience. The Internet has vastly expanded the reach of social learning by making psychological tools available worldwide and at the convenience of the individual learner. Communities of practice, a social learning vehicle posited by management scholars influenced by Vygotsky's ideas, exert a strong influence on adult professional development, yet community members need not ever physically meet for learning impact to occur. Constructivist philosophies that embrace the tenets of social learning theory serve as the conceptual basis for collaborative learning approaches such as problem-based learning or team-based learning. In collaborative learning, verbal exchange among learners promotes articulation of what one knows and the discovery of knowledge gaps, which stimulate self-directed learning, engagement in the learning material, and retention of the information studied.

Viewing intelligence in terms of social function opens doors to exploring the social factors that influence intellectual development. Scholars espousing this view have demonstrated a link between notions of intelligence predominant in the home environment and children's academic performance. Attitudes about intelligence within families may drive intellectual stimulation through increased verbal exchange between parents and children; access to books, computers, and other learning tools; learning experiences outside the home; and so forth. In educational settings, the demonstrated influence of performance- versus learning-oriented mind-sets on learners' goal striving, persistence, and help seeking may shed light on the mechanisms whereby ideas about the nature of intelligence affect intelligent behavior.

An important implication of the sociological approach to conceptualizing intelligence is that learning need not be constrained to the classroom. Indeed, socially mediated learning can occur in the home, on the playing field, or even online. Another implication is that learning processes, particularly the quality and freedom of interpersonal exchange in the learning environment, should be as much of a focus for educators as learning content. Ensuring quality interpersonal exchange is a challenging task, particularly in the face of diversity among learners in academic readiness, notions of learning, and approaches to social interaction. Without quality interpersonal exchange, however, it is unlikely that social learning approaches will achieve better results than individual instruction.

Controversies

In the United States and Great Britain, early attempts to measure intelligence via mental tests occurred at a time when there was societal interest in ranking particular racial, ethnic, or socioeconomic groups according to their intellectual ability. Intelligence testing provided a formal way to measure a group characteristic that could be conceptually linked to—and thereby used to constrain—educational and economic opportunity. From the onset of evaluating group differences in intelligence test scores, such differences have been found, and their explanation has generated sustained controversy that persists to the present day. The most heated controversy has surrounded the presence and nature of race differences, particularly those between Blacks and Whites. In the interest of scope, this section focuses on the Black/White controversy, but the issues discussed relate to investigations of group differences in intelligence generally.

The controversy over Black/White differences is not about whether such differences exist; persistent, albeit shrinking, differences in intelligence test scores, favoring Whites, have been reported since the beginning of group studies. The central issue is why these differences exist and what can be done to alleviate them. Some people, most notably Arthur R. Jensen, have advanced biological explanations for this difference, which they trace back to genetic differences between the races. According to this view, for example, Whites perform better on intelligence tests because their genetic makeup predisposes them to. The book *Hereditary Genius* (1869), written by Francis Galton, cousin of Charles Darwin and founder of the eugenics movement, set the stage for such genetic explanations by proposing that intelligence is heritable. Galton noted that the comparison of identical twins reared apart with such twins reared in the same household would illuminate the genetic basis of intelligence. Sir Cyril Burt was among several researchers who, down to this day, employ twin studies to investigate the heritability of intelligence. (Burt, however, is controversial for having allegedly fabricated much of his data after having lost the original material during a blitz on London during World War II.)

The implication of biological and genetic explanations is that the social and economic inequities

experienced by Blacks are explainable in terms of the basic deficiencies that doom attempts to achieve social justice to be futile. As exemplified by Jensen's highly controversial 1969 article "How Much Can We Boost IQ and Achievement?" the absence of successful efforts to produce generalized, lasting improvements in intelligence test scores is sometimes taken to support such views. There is a wealth of empirical evidence to refute the idea of a biological basis for Black/White differences in intelligence, but summaries of this evidence exist elsewhere. Instead, the limited space available will be used to explain why a biological account of Black/White differences is conceptually flawed. This line of thinking generalizes to the investigation of other group differences, including between other races, genders, and social classes.

The argument that Black/White differences in intelligence have a biological basis makes two inadequate assumptions. First, the argument assumes that race categories are genetically distinct and that race is a biologically meaningful concept. There is evidence indicating that biology differentially affects the prevalence of health conditions in particular race groups (e.g., there is a higher incidence of sickle cell anemia among Blacks); however, there is no evidence to support the idea that races have distinct genetic or biological "signatures." For example, there is no way to use a person's genetic code or biological makeup to objectively determine if he or she is "half-Black." The lack of a biological basis for race raises the question of how race is defined in studies of group differences and what social criteria are implicitly employed when such definitions are made. A second assumption is that genes and biology, independent of race, can be clearly linked to scores on intelligence tests. Although single-gene defects can cause mental retardation, there is no single "intelligence gene" that is expressed in biological structures or processes that can be definitively linked to intelligence test performance. There simply is too little known about the mechanisms whereby genes and biology produce intelligence test scores to posit any genetic explanation for intelligence, regardless of whether race can be biologically defined.

When considering controversies over intelligence, it is important to remember that test performance is just one way of conceptualizing intellectual behavior and that this particular view does not lend itself well to improving knowledge acquisition or social function. Investigators and philosophers alike have struggled for millennia to understand the nature of intelligence, and the result of their effort is a broad set of ideas about what constitutes intelligent behavior. These ideas highlight the importance of continuous engagement with the world, including other people, to improving the intellectual function of individuals and groups.

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See also Abilities, Measurement of; Achievement Gap; Bell Curve; Cognitive Revolution and Information Processing Perspectives; Dewey, John; Ethnicity and Race; Gender and Education; High-Stakes Testing; Mead, George Herbert; Multiple Intelligences: Howard Gardner; Plato

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Intelligent Tutoring Systems

In 1966, Patrick Suppes boldly conjectured, "One can predict that in a few more years, millions of school children will have access to what Philip of Macedon enjoyed as a royal prerogative: the personal

services of a tutor as well-informed and responsive as Aristotle" (p. 207). Soon afterward, Suppes and Mona Morningstar published studies showing benefits for learners studying elementary school arithmetic and college-level Russian-language courses using an adaptive drill-and-practice software system. It selected content based on an individual's history of progress and principles of operant psychology, particularly schedules of reinforcement. Such adaptive software set a cornerstone for intelligent tutoring systems (ITSs), that is, software designed to instruct a learner to develop knowledge and skills at least as well and in no longer time than if the learner was tutored by a highly effective human tutor. While Suppes's forecast was optimistic, diverse ITSs are now researched and used in high schools and colleges around the world. This entry discusses how the design of ITSs has evolved; how their design has been informed by constructivism, natural language processing, and research on cognitive processing; the features of a comprehensive ITS; and research on the effectiveness of ITSs.

Early ITSs selected content based on a rather rigid model of knowledge that formed a basis for skills in a domain of problem solving, for example, arithmetic or algebra. But learners often erred. To compensate, the system's model of content was extended to include "bugs," mistakes that interfere with validly applying a procedure to generate an answer. When a learner appeared to apply a buggy procedure, a correct one could be recommended. In this context, a conceptualization of an ITS as coach emerged. Coaching implies a dialogue in which the ITS and the learner exchange descriptions about procedures. This led to developing so-called mixed-initiative ITSs, in which the ITS or the learner could "lead" and feedback based on prior contributions to the conversation was central. The structure of dialogues was grounded on a merger of theories of conversation with models describing structures of the content tutored. A prominent paradigm guiding designs for ITSs is constructivism. It characterizes learners as intrinsically active searchers for, and assemblers of, knowledge and skills. In this view, an ITS affords a learner opportunity to explore content and encourages the learner to construct interpretations as a result of successive explorations. To facilitate exploration, an ITS adopts one or both of two stances: (1) inviting the learner to develop situations and test hypotheses, as in a system that simulates principles of physics, or (2) engaging in dialogue with the learner to create opportunity for the learner to reflect on evolving structures of knowledge or skills. As before, ITSs designed in the tradition of constructivist theories generated some successes as well as some disappointments. Supporting these systems was work on natural language processing that allowed the ITS to "converse" with the learner, and human–computer interaction that guided designs for graphics interfaces and methods by which learners manipulated elements, for example, changed the values of variables and kept track of conditions and results over a series of experiments in a simulation.

Along with constructivism and natural language processing, a third framework guiding research involving ITSs draws on an eclectic assemblage of research on cognitive processing and the factors that impinge on it. A prominent example of this approach, cognitive tutors, reflects three main principles. First, cognition can be described as a production system, that is, a typically hierarchically articulated set of rules where each rule includes a set of conditions (ifs) that when satisfied result in a particular action (then). A successful production system faithfully represents changes in the states of a learner across time and binds states to effective choices about content to present an instructional move. Second, skills of the kind used in solving problems progress from a declarative state, wherein the elements of a skill become known and organized into sets, to an integrated procedural state, wherein knowledge transforms to a form that solves problems in a fluent, holistic process rather than a separate step-by-step process, as in climbing a staircase. Third, because learners learning to solve problems can attend only to a limited amount of information, tutoring should select problems and provide feedback to support forging an optimal composition of rules that successively builds toward proceduralizing knowledge as a skill.

Beverly Park Woolf describes the design of a comprehensive ITS as having seven features:

1. Generativity, or the capability to select or construct content tailored to advancing a learner's progress
2. Student modeling, a learner's attributes—for example, knowledge, motivation, or affective state—in a form that affords reasoning about a learner's state and, in that context, choosing content or instructional moves that help the learner progress
3. Expert modeling, or knowledge and skills in a form that corresponds to mastery of the domain

and supports making inferences about the content a learner should engage

4. Instructional modeling, or the ability of an ITS to characterize possible instructional moves and infer the relative benefit of each for advancing the learner's knowledge
5. Mixed initiative, which describes an ITS that can initiate instructional exchanges as well as reply to a learner's initiations
6. Interactive learning, which refers to a design for engagement such that a learner is an active participant or collaborator in instruction
7. Self-improving, which identifies that an ITS records and analyzes the events it generates as well as data characterizing the learner's progress, which are analyzed to predict how to improve the effectiveness or efficiency of instruction

ITSs in the laboratory and in schools exemplify these features in varying degrees and forms.

Are ITSs effective? Wenting Ma, Olusola Adesope, and John Nesbit reported a thorough meta-analysis. Across a range of outcomes, grade levels, and designs for modeling learner competence in the domain being tutored and subjects tutored, ITSs generally advanced learning to a greater extent than teacher-led instruction, nonadaptive software systems, and textbook-based or workbook-based instruction.

Philip H. Winne

See also Behaviorism; Dialogue; Knowledge, Analysis of; Learning, Theories of; Radical Constructivism: Ernst von Glasersfeld; Teaching Machines: From Thorndike, Pressey, and Skinner to CAI

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International Student Assessment (PISA)

The objective of this entry is to describe the main characteristics of the Programme for International Student Assessment (PISA) conducted by the Organisation for Economic Co-operation and Development (OECD)—a series of cross-national studies conducted since 2000 to assess achievement of 15-year-olds. PISA was initially developed as part of the strategic plan implemented by OECD to provide their International Indicators of Education Systems (INES) project with regular indicators of students' achievement near the end of compulsory schooling. This entry discusses the reasons for the establishment of PISA, the target population and subject areas tested, the assumptions behind the tests, the constraints on interpretation of the results, and issues with the way results are reported.

In industrialized countries, a dramatic increase in enrollments occurred during the latter half of the 20th century, due to the combined effects of the postwar baby boom and a swift rise in educational demand from families and the labor market. This increase in enrollment resulted in an accelerated trend toward universal secondary schooling and a large increase in enrollments in tertiary education. The shift from "elite" to "mass" education, particularly in secondary schools, not only required huge public investments but also enormous adaptation efforts in school systems. The length of compulsory schooling was extended, and significant reforms of organizational structures, of curricula, and of teaching methods were common during the 1960s and 1970s—a transition period in which many educational systems were requested to rapidly switch from strict selectivity, highly tracked programs, and discrimination against disadvantaged minorities toward greater retention and more comprehensive instruction for all.

While contributing to advances in scientific knowledge remains a fundamental concern, most recent international studies carefully identify the policy issues that can be addressed through the

study results and respond by devising more complex strategies to disseminate the information collected among stakeholders at all levels of the educational systems.

In this respect, PISA can be considered to (1) inform national authorities about the extent to which other school systems "do better" than their own system in terms of student outcomes, instructional delivery, teachers' qualification or professional development, effectiveness of resource use, and so on; (2) indicate whether the school organization in other countries results in fewer disparities in the quality of instruction delivered and in a lower impact on students' outcomes of social background, gender, or ethnicity; and (3) show whether the evolution over time of any of these indicators was positive (or negative) in their country compared with other countries.

Like most international studies, PISA routinely allows for both international analysis of the pooled data set and replicated analysis of each country's data. Then, generalizations about education can be made, as well as more specific national analyses. The PISA studies also encourage the use of national options; that is, a country can add extra variables for national analyses only to an international study in which it participates.

A specific feature of PISA is that the program is primarily intended to provide indicators to the governments of a specific group of countries—the industrialized nations that compose the membership of the OECD. All but 2 of the 30 OECD countries that were then members of OECD participated in the first assessment in 2000, and all of them participated in 2003. While a number of non-OECD countries also joined in the assessments (a total of 53 countries participated in the 2006 survey and 65 in 2009), their delegates serve in the PISA Governing Board as observers and do not have a decision-making status. This latter role is restricted to the OECD member countries.

The Target Population and Subjects Tested

PISA uses a "pure," age-based definition of its target population, which consists of 15-year-old students, irrespective of the grade attended. This is the older age group where 100% or near 100% of the students are still attending school in almost all of the OECD countries.

PISA is conceived of as a periodic program, where each nine-year cycle includes three assessments of student literacy in reading, mathematics, and science, conducted in the third, sixth, and ninth years of the cycle. Each of the three data collections includes all three domains, but with a special focus on one of them and shorter test instruments for the other two. In the first PISA assessment, conducted in 2000, reading literacy was assessed as the major domain, while mathematical literacy and scientific literacy were the minor domains. In 2003, mathematical literacy was the major domain, and reading and science were included as minor domains. In 2009, the focus shifted to science literacy, with reading and mathematics as minor domains. In 2012, a new nine-year cycle started, with reading again the major domain and with interactive problem solving as a minor study. This design allows trends in achievement in these areas to be monitored on a regular basis.

Each assessment period also includes an additional "experimental" domain, which is not part of the rotation sequence. In PISA 2000, the experimental domain was self-regulated learning; in PISA 2003, it was problem solving; in PISA 2006, it was computer-assessed science, and in 2015, PISA will follow on from the successful work of the Assessment and Teaching of 21st-Century Skills project (Griffin, McGaw, & Care, 2012) to include collaborative problem solving, in which students will interact with one another to solve problem scenarios.

PISA studies are school based; but unlike other cross-national studies, such as those conducted by the International Association for the Assessment of Educational Achievement (IEA), PISA studies are mainly literacy oriented rather than based on the school curriculum. The intention is "to provide policy-relevant information on the cumulative yield of education systems towards the end of compulsory schooling, measured in terms of the performance of students in applying knowledge and skills they have acquired in key subject areas" (cited in Postlethwaite, 2004, p. 3). The PISA test instruments are focused on students' ability to apply their competencies in functional situations and authentic contexts.

Aims and Assumptions

In general, PISA aims to provide policymakers and educational practitioners with information about their education system in relation to other systems and to assist them in understanding the reasons for observed differences in the achievement of students from different educational systems. In addition,

there has been an unmistakable common trend toward benchmarking and defining standards of achievement as well as explaining the determinants of achievement.

A common assumption of PISA and similar studies is that differences in student performance between countries can be linked to the characteristics of particular education systems and that by recommending changes and improvements in the characteristics of educational systems there will be improvements in student achievement. For example, the OECD nations often base their arguments in favor of a better monitoring of education on the relationship between educational achievement and productivity growth at a national level (OECD, 1989). Whether the nature of this relationship is causal or not, however, is a much debated issue. McKenzie and Wurzburg (1997) argued that the evidence relies on comparisons between countries at different stages of development and may well be spurious.

Constraints

There are a number of concerns about (a) the actual comparability of the data on which international analyses are based and (b) the ways in which they are interpreted and reported.

Comparability issues include concerns about the following:

Validity of the assessment materials used: Are they equally appropriate for all participating countries, and are the dimensions assessed sufficiently similar across the various cultures and educational curricula to allow for meaningful comparisons? This is particularly the case for non-OECD countries, which have no decision-making power in the definition or scope of instruments.

Linguistic equivalence of test items: Since the assessment materials are translated into a variety of languages, the results may be affected by possible translation issues.

Equivalence of target populations: Even in PISA, where the target population is age based, the focus is still on 15-year-olds in school, hence receptivity issues arise. Are the samples of students reasonably consistent and representative in each of the participating countries? Are the results affected by differences in the defined populations or in the number of exclusions, or by variations in the response rate?

Comparisons over time: Are they warranted, when neither the cohort of students assessed nor the instruments used are exactly the same?

Reporting Issues

A much-criticized aspect of international comparative studies is that they are deemed to encourage "league table" interpretations of the results, where mean achievement scores by country are ranked in descending order. This can encourage superficial (and often misleading) interpretations of the results, based on ranks rather than on the pedagogical importance of the observed differences. In addition, this type of report is often used, particularly in the media, to "support" unwarranted conjectures about possible causal links between the "high" or "poor" ranks of countries or groups of countries, with all sorts of contextual variables showing even minor cross-country differences (e.g., differences in teachers' age, in teacher–student ratios, in the size of schools, etc.). Finally, by focusing on mean scores and ranks, league tables can divert attention from other very important parameters, such as the dispersion of the achievement scores.

Use of Described Scales

While it is a continuing trend to report distributions and standard errors, there is also an emerging trend to report distributions over levels of competence. This has far greater utility in terms of policy development.

Competency continua are established using item response modeling and by obtaining from domain experts a detailed description of the skills required to answer the test items corresponding to various score points on the continuum. These item maps enable a generalizable interpretation of the underlying variable measured by the tests. By setting cut points on the scale, different levels of proficiency can be established, and results can be reported in a much more meaningful way than through single-country mean scores: Policymakers are provided both with information on the percentages of students in their population who are proficient at each competency level and with information on the knowledge and skills that students at each level have actually mastered.

This form of reporting enables more interesting reflections on the relations between achievement and teaching, resource allocation, and policy development. Benchmarks can be set, but more important, intervention strategies can be developed for students

at every level, not just for students below the expected levels of achievement. This has far-reaching implications for curriculum and policy developers.

Conclusion

The way in which international study results are reported can have an impact on public opinion and policy decisions. Of course, despite all efforts deployed in subtle presentations of the data, little can be done to prevent the media from focusing on the most "visible" results of international comparisons—the "horse-race" aspects. However, well-conducted studies provide information that goes well beyond spectacular rankings and their short-sighted impact on national egos. A merit of comparisons is that, by showing the high levels of achievement attained in some of the participating countries, they provide empirical evidence that such levels are within reach in educational systems. In this respect, comparative results often prove to be a powerful lever to encourage countries to investigate why their students are less proficient than those of other countries and what can be done to improve their own systems.

In a number of countries, results from international studies such as those conducted by the IEA and the OECD have had strong public impact by bringing to the fore the issue of excellence. In many jurisdictions, people tend to hold a comfortable opinion that their school system is "the best in the world," and they are shocked when empirical evidence indicates that this is a questionable point of view.

While the international studies have identified a number of school variables that seem to "work" in producing higher levels of competence (e.g., student achievement has been found to be positively related both to the time given to the study of a subject at school and to the time spent on homework), the most important message conveyed to policymakers by international comparisons seems to be that, in general, the impact of any single school variable is small and is often linked to a variety of other aspects of the educational context. Probably, no spectacular progress in achievement can be expected from simply implementing "miracle" innovations copied from specific aspects of educational policy found in high-achieving school systems. By contrast, much can be learned by carefully examining how important positive and negative factors interact in a variety of other systems, to better design national reforms.

Patrick Griffin

See also Evidence-Based Policy and Practice; Quality of Education

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Isocrates

Isocrates (436–338 BCE) was an eminent ancient Greek philosopher and educator, one of the Ten Attic Orators, an associate of Socrates, and a friend

and rival of Plato. After a long rivalry between the school of Isocrates and the Academy of Plato, it was Isocrates's educational ideas and practices that prevailed in Europe, North Africa, much of the Middle East, and eventually all of North America. It was Isocrates, not Plato, who became the educator of the classical world and is widely known as the father of the liberal arts and liberal education. Yet in spite of his well-established prominence in the history of education, and a rich tradition of Isocrates scholarship in French and German, no general history of education in English contains a discussion, or, as in most cases, even a mention, of Isocrates's educational thought. He was born in Athens in 436 BCE and is reported to have starved himself to death in 338 BCE in despair over the loss of Athenian liberty after the battle of Chaeronea. Isocrates is reputed to have written some 60 works, including a treatise titled *On the Arts of Rhetoric*. If he did indeed compose this treatise, it has not survived—only 21 of the published works survive, along with nine epistles. While all of these works are concerned, in some way, with educational philosophy and practice, his *Antidosis* and *Against the Sophists* are most directly concerned with education. The school he founded was opened before its rival, Plato's Academy, and was always much more successful in terms of the number of students it attracted and the influence they had in politics and education.

Isocrates: Philosopher Not Rhetorician

While there is no question about the unequaled magnitude of Isocrates's influence in Western educational thought and practice, there is much debate concerning the nature and value of his educational ideas. There are, however, two obstacles to ascertaining just what the nature and value of his educational ideas are, namely, classification and translation. Isocrates has come to be classified as a rhetorician, and consequently his works are translated on the assumption that he *was* a rhetorician. For example, the standard English translation by George Norlin (1928) has the advantage of including the Greek texts but the disadvantage of translating very different Greek words into a single English word; for example, four different Greek words for speech, reason, rhetoric, and discourse are all translated into the single English word *rhetoric*. This is a result of the assumption that Isocrates was a rhetorician who advocated rhetorical education. There are reasons to doubt the veracity of that classification. Although the word *rhetoric* was a familiar one in his day, Isocrates does not use it to describe himself or his activity. On the contrary, in his *To Philip*, his *Busiris*, and some of his epistles, for example, Isocrates explicitly insists that he is not a rhetor, does not practice rhetoric, and is not a rhetorical educator. He carefully explains what distinguishes him from those concerned with rhetoric and rhetorical education: He does not teach rhetoric, the art of persuasion, but rather philosophy and the arts of truthful discourse. He describes himself as a philosopher concerned with the art of discourse or reasoned debate, and his longest educational work, the *Antidosis*, is an imitation of a defense of philosophy, the *Apology of Socrates*.

The Most Valuable Thing in Human Life: The *Politeian*

Isocrates repeatedly claims that the most valuable of all human activities is politics, though he believed that politics is inseparable from religion and economics. He argues that every political community is defined by a *politeian*, or "political doctrine." A *politeian* is a definition of political justice, and of the acceptable means to attain justice so defined within a particular regime. The goal of politics is to attain justice, that is to say, a distribution of material goods and powers that satisfies the material interests of all citizens sufficiently to sustain a stable political order. While Isocrates argues that there are virtues that are valued in almost every human community—virtues such as honesty or moderation—he also argues that there cannot be any universally valid *politeian*. Each community will discover and sustain the *politeian* that meets the requirements of its citizens in their particular time and place. As material conditions or the aspirations of citizens evolve over time, the *politeian* too should evolve through a process of moderate and reasoned debate among the citizenry as a whole. The primary purpose of education is to prepare young men—and it is men only—for participation in such debate.

The Essential Nature of Education

Isocrates argues that it is the essential nature of education to be subordinate to other, more valuable human activities. The most valuable of all human activities is politics. Consequently, it is both logically necessary and a historical fact that the conduct and the goal of educational practice is wholly determined by the *politeian*. Isocrates argues that education must be and always is subordinate to politics and

consequently has no goal and no value of its own; there is no notion that "learning is good in itself," no sense of education or knowledge being intrinsically valuable. Education is subordinate to politics.

The Value of Conditional Deduction

Isocrates's most influential educational idea—an idea now almost universally assumed—concerns the relationship between education and the *politeian*. All educational theory and practice depend on normative judgments, that is, judgments about what is valuable and what is not valuable. The curriculum theorist and the practicing teacher must ask, for example, which books are valuable to read and which books are not valuable or are harmful. Isocrates argues that all normative judgments in education must be made using the logical method of conditional deduction, the most commonly used method in education. In the simplest terms, the method of conditional deduction consists of "if–then" statements: *If* I believed that the political principles of diversity and tolerance are valuable, *then* I would claim that books that celebrate diversity are valuable parts of the curriculum while books advocating racism or other modes of discrimination are not. Educators use the method of conditional deduction whenever they derive educational prescriptions from political doctrine, as follows:

> *Axiom:* Education is by its very nature subordinate to politics (including religion and economics).
>
> Therefore, the conduct and goals of education must be subordinate to a *politeian*.
>
> Therefore, the educational theorist must begin with a commitment to some variant of the *politeian* of his community, in the form of a specific *politeian* (e.g., liberalism, conservatism, socialism, etc.).
>
> Then, by conditional deduction, the theorist deduces from the *politeian* what the practices, goals, and value of education ought to be.
>
> Thus, if the values of the *politeian* are X (e.g., liberalism), the practices, goals, and values of education ought to promote X (e.g., liberalism).

If our *politeian* values equality, then students will be treated equally in education; if our *politeian* values inequality, then students will be treated unequally. If our regime is committed to a particular religion, then we must deduce that teachers will be committed to that religion and that the curriculum must be consistent with it. Every aspect of education is wholly determined by the *politeian:* From the qualities teachers ought to have, to the teaching methods, to every aspect of the curriculum, and the knowledge, skills, and moral dispositions students are expected to acquire, all are conditionally deduced from political doctrine.

While Isocrates believed that the practice and goals of education ought to be deduced from the prevailing *politeian*, he did not think of education as preparing students to serve the state or the government. After all, government or the state can itself become a special-interest group, with interests and goals that are not wholly in the service of the citizens as a whole. Instead, Isocrates argued that education ought to prepare young men to serve the regime, understood in terms of the interests of the citizenry as defined by the *politeian.*

Education and Federalism

Isocrates's conception of education as serving the interests of a specific regime at a specific time raises questions of the relations between regimes. If the young are to be educated according to their own *politeian*, then how can international understanding and cooperation ever be facilitated? He answers these questions with the political idea of federalism, which is first formulated in his *Panathenaicus*, a work that arguably was foundational in the development of political federalism in the United States, Canada, and the European Union. He argued that regimes with compatible *politeian* could each maintain their own particular political identity, while at the same time finding grounds for common political action in their common interests. Isocrates believed that what made a person a civilized human being was neither any natural quality such as ethnicity or place of birth nor attachment to a particular regime, but rather an education in discourse. He argues in his *Panegyricus* that one is not born a civilized person but, rather, becomes a civilized person through an education that seeks practical wisdom and the skills and virtues of reasonable negotiation within and between regimes.

The Experience of Education

Isocrates used three teaching methods. The most important of the three was *mimesis*, in which the teacher presents himself as *mimesasthai:* The teacher is a model of virtue and discourse, which presents him for imitation. The second is instruction

by a teacher in the liberal arts (grammar, history, rhetoric), and the third is practice by repetition of spoken discourse and debate.

Perhaps the most surprising feature of Isocrates's educational thought is his repeatedly emphasized belief that formal education can contribute very little to the quality of human life and that the first duty of educators is to resist the constant temptation to exaggerate its efficacy. Indeed, his first educational writing, *Against the Sophists*, opens with a direct assertion that the primary problem in education was that teachers have a poor reputation because they promise that education can attain much more than it actually can. He found that educators claimed (then as now) that education could and should achieve a long list of benefits: Formal education could prepare people (*any* people) to be responsible and active citizens, critical thinkers, lifelong learners, employable and productive contributors to the economy, participants in the arts and cultural life, good parents, moral paragons of tolerance, honesty, and justice, and more. In response to such impossible claims, Isocrates argued that while education could play a vitally important role in the life of an individual and a community, it was false and irresponsible to claim that education could ever (or has ever) come close to achieving the goals listed by educators. At the conclusion of *Against the Sophists*, Isocrates claimed that education could only be expected to partly enable a few students, if they possessed the right natural dispositions, to attain a narrow set of practical goals: Within the prevailing *politeian*, students can be taught to moderate their material desires, to make practical judgments on personal and political matters, and to effectively express those judgments in discourse for the sake of the regime of which one is a citizen. Isocrates's students are conventional, practical citizens, not seekers of knowledge, not lovers of learning, truth, and beauty for their own sake.

James R. Muir

See also Aristotle; Cicero; Liberal Education: Overview; Plato; Quintilian; Socrates and Socratic Dialogue; Sophists

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J

James, William

William James (1842–1910), widely regarded as one of America's most original and versatile thinkers, was influential in philosophy, psychology, and, to a lesser degree, education. His thought was broad, diverse, and very capable of absorbing ambiguity and even at times contradictory truths. As a founder of pragmatism, the first genuinely American school of philosophical thought, James's epistemology and theory of truth greatly influenced John Dewey's thinking. Although an empiricist of sorts, his pluralism helped pave the way for the acceptance of postmodern thinking. Often referred to as the father of American psychology, James combated the reductive tendencies of the advancing positivist and behaviorist psychologies of his time.

Born in 1842, James spent the bulk of his professional life on the faculty at Harvard as a professor teaching physiology, psychology, and, eventually, philosophy. James grew up in New England and Europe; his brother was the novelist Henry James and his sister, the writer Alice James. When in Boston, his home was frequented by noted intellectual family friends, including John Stuart Mill, Henry David Thoreau, and Ralph Waldo Emerson.

After receiving an MD degree from Harvard's School of Medicine, James began teaching physiology. Over the course of his career, his interests moved from physiology to psychology to philosophy, and his thought in each area was clearly influenced by his previous work in the others. For example, his psychology drew on physiology, setting up a psychology grounded in the physical contexts of human existence, and his philosophy sprang from his psychological work. All of James's thought was also strongly influenced by Darwinian evolutionary theory. The result in psychology was a functionalism that focused on the adaptive qualities of mind; in philosophy, this led to a pluralism that attempted to capture the variety of ways of being and knowing and the concrete functions and benefits of these various ways of knowing.

James's intellectual legacy thus possesses several strains. His most enduring works include *The Principles of Psychology*; *The Varieties of Religious Experience*; *Pragmatism: A New Name for Some Old Ways of Thinking*; *The Will to Believe*; and *Talks to Teachers on Psychology*. Given the expansive nature of James's thought and the short space here, what follows is a focused sketch of his importance as a psychologist and as a founder of pragmatism. The entry concludes with brief treatment of his influence on psychology and educational psychology.

James's Psychology

In the history of both psychology and educational psychology, James often plays the role of forgotten founding father and as a foil to the behavioral outlook in psychology that was emerging at the turn of the 20th century. Instead of accepting behaviorism's narrowing focus on observable stimulus–response dyads, James sought to understand how the thinking organism existed in its wider contexts. His focus led to the psychological school known as

American functionalism. It took James more than a decade to complete the two volumes that constituted his psychological masterwork *Principles of Psychology*. Released in 1890, the work is considered to be the first substantive American psychology textbook, and while it was influential, critics tended to focus on what they saw as an overly inclusive scope. James condensed the two volumes into one denser, but still very readable, book titled *Psychology: The Briefer Course*. The *Principles* is known as "the James" and *Briefer Course* has come to be known, affectionately, as "Jimmy" or "the Jimmy."

Principles articulated an evolutionary functionalism that started with the maxim that humans are first and foremost practical beings and that the mind (and hence ideas) serves to help us adapt or function in our world. James refers to this as the biological conception of mind, and it is a key orientation that Dewey would adopt and apply to children working with ideas in the classroom. James also introduced the "stream of consciousness" as a way to describe how our mind never exists in the same state twice because the mind is changed by each state and because contexts affecting the mind are also changing.

Pragmatism, Pluralism, and Method

Although an important thinker in American philosophy in his own right, James's influence in educational philosophy has been less direct, and it is probably best to think of his work as a founder of pragmatism as exerting indirect influence on educational philosophy; as noted earlier, his ideas were deeply influential on John Dewey who then applied his version of pragmatism (together with James's evolutionary-oriented psychology) to education.

James claimed that truth "happens" to an idea. It is a label applied to an idea once it has been thought of and successfully acted on. This is best illustrated in James's famous example of the squirrel and the tree. In *Pragmatism*, James tells the story of a group of campers who ask James to settle their philosophical dispute: If a squirrel is on the opposite side of a tree trunk from a man and the man circles the tree while the squirrel maintains its position on the other side of the tree from the man, then did the man "go around" the squirrel? James answered that it depends on how you define your terms and what you are trying to accomplish in asking the question. Thus, the pragmatic theory of truth is a method that seeks to clarify terms and to defuse many seemingly intractable but practically unimportant philosophical dilemmas by considering the purposes and consequences of ideas and actions.

James also devoted effort to other pressing philosophical questions of his day, such as the debate between free will and predestination. While personally very aware of the tragic and dark sides of human existence—James sometimes suffered from incapacitating bouts of depression and anxiety—he decidedly came down on the side of free will, going so far to famously claim that his first act of free will was to believe in free will. This statement epitomizes James's pragmatic belief that ideas ought to be judged according to their effects when put into action. Belief in free will had very real consequences for James. As he tells it, it allowed him to pull out of his existential funk and to claim agency in his life.

The Variety of Religious Experience is a work still used in many religious studies courses. More social science than philosophy, the work is an extension or application of this idea that the consequences of ideas are the best way to judge their worth. In *Varieties*, James empirically studied extreme religious experience and found religious experience to be primarily *emotional* in nature. This is a stark contrast to his more cognitive/intellectual explanation of how we know, which he puts forth in *Pragmatism*, but these experiences are justified in pragmatic terms because James establishes that even though these intensely personal experiences are difficult or impossible for others to fully understand, the consequences of such experiences are quite real to the experiencer and affect the world in very real ways.

James's Influence in Education

James took some of the central and most relevant ideas in *Principles* and presented them in a series of very popular lectures at Harvard to local school teachers. The talks were turned into a book, *Talks to Teachers on Psychology*, which has been reprinted scores of times. In terms of education and educational psychology, this is probably James's most well-known work. Perhaps most important is Chapter 3 of this book, "The Child as a Behaving Organism," in which in four short pages he summarizes the functional-evolutionary conception of mind in which it is argued that the function of ideas is to be worked with, to direct human action. The impact of this discussion can readily be seen in Dewey's *The School and Society*.

James sets up his series of talks with a warning for psychologists and other enthusiasts not to overreach when thinking about the role of psychology in education:

> I say moreover that you make a great, a very great mistake, if you think that psychology, being the science of the mind's laws, is something from which you can deduce definite programmes and schemes and methods of instruction for immediate schoolroom use. Psychology is a science, and teaching is an art; and sciences never generate arts directly out of themselves. An intermediary inventive mind must make the application, by using its originality. . . . To know psychology, therefore, is absolutely no guarantee that we shall be good teachers. To advance to that result, we must have an additional endowment altogether, a happy tact and ingenuity to tell us what definite things to say and do when the pupil is before us. That ingenuity in meeting and pursuing the pupil, that tact for the concrete situation, though they are the alpha and omega of the teacher's art, are things to which psychology cannot help us in the least. (James, 1899/1962, p. 3)

James's thoughtful and rich, yet humble, empirical attitude is something today's educational researchers could benefit from by taking it seriously. Just as in his own day, when his psychology was positioned in opposition to the advancing reductive positivism of the time, employing James's thought in contemporary contexts might serve as a balance to notions of scientifically based educational research as the only promising way to improve teaching and learning.

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See also Dewey, John; Evolution and Educational Psychology; Spectator Theory of Knowledge

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Jewish Educational Philosophy

What is Jewish educational philosophy? The adjective *Jewish*, like *Christian*, *Hindu*, or *Muslim*, is particular, suggesting a basis in or relevance to a particular ethnic or religious community and its traditions of thought and practice. *Philosophy*, on the other hand, is universal, suggesting a field of inquiry with universal applicability. So the term *Jewish educational philosophy* may seem as confused as "Jewish philosophy of physics." But there are a number of defensible conceptions of the field, which can be thought of as distinct modes of Jewish educational philosophy.

First, some scholars pursue an excavation of the educational ideas within the Jewish literary and legal tradition. Second, somewhat more narrowly, scholars excavate those educational ideas from within the tradition of Jewish philosophy, in particular. Both of these efforts to identify and examine ideas about education are descriptive or expository in nature, rather than normative. That is, they ask, "What does this idea mean?" and "What would education look like if we took this idea seriously?" rather than asking, "*Should* one follow or try to implement this idea?"

In a third mode of Jewish educational philosophy, scholars pursue a kind of normatively oriented dialogue with sources from within the Jewish tradition. The fourth mode is the scholarly effort to articulate and examine the aims or purposes of Jewish education. Finally, in a fifth mode, Jewish educational philosophy strives to illuminate and even provide guidance regarding problems of Jewish educational practice.

This entry will discuss each of these modes in turn, providing examples from Jewish tradition,

philosophy, and educational practice as the discussion proceeds. An added benefit of framing the entry in terms of these five modes is that no claims need to be made about what all Jewish educational theorists believe. Philosophers are not generally known for their ability to reach agreement, and scholars in this field are no exception.

Mode 1: The Excavation of Ideas From the Jewish Tradition

Jewish educational philosophy may be taken to be an inquiry into what Jewish texts say about important educational issues (keeping in mind, of course, that the Jewish tradition encompasses multiple voices on just about any topic that can be thought of). Thus, scholars might (and do) ask, What do the traditions found in the Hebrew Bible, the rabbinic texts of the 1st to 6th centuries, the medieval Jewish philosophical texts, the early modern Jewish mystical texts, or any other identifiably Jewish sources say about the purposes of education, about the essential content of education (curriculum), about pedagogy, about access to education (who gets to be a student in formal education settings), and about the centrality of education within Jewish culture? Nor must the discussion be restricted to written texts. Jewish educational philosophy might also be developed out of the *practices* of Judaism, even if—or especially if—they do not conform to the central texts on the topic. Regardless of what the texts say, how do those practices testify to a set of beliefs or understandings about education?

An example here is the question of girls' and women's access to traditional Jewish education. The central legal texts of the Jewish tradition are ambivalent at best about providing educational access to girls and women. But recent scholarship has documented a substantial presence of girls in East European Jewish *cheders* (primary schools) in the 18th and 19th centuries. In other words, apparently, the practice in that place and that time did not conform to the dominant voice in the textual tradition.

However, it needs to be emphasized that this kind of intellectual project—the project of excavation of ideas from texts or practices of the past—is descriptive or expository in nature, rather than normative. So whether the texts under consideration are opposed to women's education, and whether the actual practice in Eastern Europe indicates support for women's education, tells us nothing about what *ought* to be the case (without, of course, some corollary argument about why anyone ought to take the text, or the practice, as a norm for their own educational decision making).

Mode 2: Educational Implications of Jewish Philosophical Texts

Sometimes, the Jewish texts to which scholars turn are explicitly philosophical, where "philosophical" simply means that the text advances a set of claims on the basis of arguments about the good life, or the good society, or the nature of being or of knowledge, or more narrowly, about why Jews ought to do or believe whatever they ought to do or believe. In this sense, Bible and Talmud are not philosophical. But the category does include classical texts, such as *The Book of Beliefs and Opinions* by Sa'adia Gaon (882–942) and *The Guide for the Perplexed* by Moses Maimonides (1135–1204), and contemporary texts, such as *Engendering Judaism: An Inclusive Theology and Ethics* by Rachel Adler (1943–) and *Sacred Attunement: A Jewish Theology* by Michael Fishbane (1943–).

When scholars turn to texts such as these to excavate the ideas about Jewish education embedded within them or to discern their educational implications—when they ask, among other things, "What would it look like if we took this idea seriously in Jewish education?"—then they are pursuing Jewish educational philosophy in Mode 2. But even in these cases, discovering that a particular Jewish philosopher once wrote something about educational processes or purposes tells us little about what anyone *ought* to do or say in the educational sphere. The *object* of inquiry may be normative, but the *mode* of inquiry is descriptive or expository.

Consider, for example, the argument by Maimonides, the greatest medieval Jewish philosopher, that all of Jewish law and practice is designed to develop the intellectual, spiritual, and moral character of the individual. For philosophers of education, this is intriguing. If all of Judaism is educational, then what is Jewish education? How might we think differently about the purposes of Jewish education in light of this educational purpose of all of Judaism? Pursuing this inquiry falls squarely into what we are calling Mode 2 of Jewish educational philosophy. If we take Maimonides's claim seriously, it might have profound implications for how we conceptualize Jewish education and its purposes—but the inquiry itself does not provide an argument that we actually *ought* to take it seriously, that Maimonides ought to guide anyone's educational decision making.

Whatever the object of inquiry—whether it is a biblical text, a classical legal text, a Jewish practice in a particular time and place, or a philosophical text—the observation that Modes 1 and 2 are descriptive rather than normative is not intended as a criticism. In fact, scholarship in this mode can often be extremely valuable to practitioners, in an indirect way. Rather than claiming to prescribe Jewish educational ideals, Jewish educational philosophy in Modes 1 and 2 has the potential to broaden horizons and to improve practice simply by inviting practitioners to imagine possibilities and to explore alternatives that are radically different from the ones that they know.

Mode 3: Normative Dialogues With the Jewish Tradition

Not surprisingly, some scholars are not satisfied with a descriptive excavation of Jewish educational ideas. They are motivated in their inquiries by the desire to provide guidance to contemporary Jewish educators and sometimes to others as well. Doing Jewish educational philosophy in Mode 3 presumes that the texts to which a scholar turns have some authority—that they are worth listening to. Outsiders to the Jewish tradition (or other religious traditions) sometimes imagine that this process is a straightforward one: If you grant the texts some kind of authority, then presumably you have committed yourself to doing whatever the text tells you to do. But this is more complicated than it may seem.

Consider Proverbs 22:6, "Educate each child according to his own path." This seems to be an endorsement of differentiated instruction! And so, we can assume that the normative philosopher of Jewish education must affirm a policy of differentiated instruction on the basis of this verse. But this is naive in at least three ways.

First, Jews (and others) have been reading and interpreting this verse for a long time, whereas the idea of differentiated instruction—and thus the interpretation of the verse in the preceding paragraph—is rather recent. Second, the tradition hardly ever speaks with one voice about an issue; when the focus is on a particular text, one short passage is being selected from a complicated tradition stretching over centuries. (In this case, note might be taken of a verse that is decidedly less popular in contemporary progressive circles, from Proverbs 13:24: "The one who spares his rod, hates his son.") And third, not all texts look like Proverbs, with its pithy sayings that seem to be telling us what to do; the Jewish tradition includes narratives, legal material, poetry, commentary, philosophy, mystical writings, and more—all of which make a claim to normativity (a claim that they *ought* to be taken as authoritative) in their own particular ways.

The conclusion to be drawn from these observations is that the (normative) encounter with the (normative) texts of a tradition always takes on the character of a dialogue. The texts have a voice, but the inquirer has a voice as well. In fact, this dialogic quality is explicit in much of the work of Michael Rosenak (1938–2013), the leading philosopher of Jewish education in the past generation. Rosenak seeks not merely to discern beliefs or ideas that are implicit in classical Jewish texts; rather, he often brings those texts into a purposeful dialogue with texts and ideas from general philosophy of education, all for the constructive purpose of providing guidance to contemporary Jewish educators.

Mode 4: Aims of Jewish Education

The preceding mode of Jewish educational philosophy moved from the descriptive to the normative. But, actually, the most basic normative stance is to pursue fundamental questions about the aims of Jewish education, whether it takes place in schools or summer camps, synagogues or universities. How can we articulate a principled view about what Jewish education is *for*?

There are a number of ways of taking up the question of the aims of education. But in recent years, this mode of Jewish educational philosophy has been identified with Seymour Fox (1929–2006) and his work promoting visions of Jewish education. The premise of this approach is that we can and should articulate the appropriate aims of Jewish education in terms of an image of the ideal educated Jew, that is, the ideal "product" of Jewish education. How does one construct such an image, such a vision? Not, interestingly, on the basis of conceptual or linguistic analysis, the kind of philosophical inquiry into the "educated man" pursued by R. S. Peters and others. Instead, Fox argues that such an image ought to be developed out of the sources of the Jewish tradition.

To demonstrate his idea, Fox called on a set of scholars of Jewish history and religion to construct the visions that he believed were necessary to reinvigorate Jewish educational practice. Four scholars formed the core of the project: Menachem Brinker, Moshe Greenberg, Michael Meyer, and Isidore Twersky. According to Fox, the visions that scholars such as these would produce would answer

the questions about the aims of Jewish education by painting a picture of the ideal product of Jewish education that emerged from certain aspects of the Jewish tradition (as understood by these scholars). Note that this normative project was also, at the same time, explicitly pluralistic; Fox embraced and celebrated the diversity of perspectives that the scholars represented.

The visions that the scholars produced are creative and insightful, providing much food for thought. What is notable, however, is that they lack systematic argumentation of the kind that Jewish educational philosophy ought to represent. Moreover, in drawing on sources within the Jewish tradition, they lack substantive engagement with other philosophical explorations of the topics that they raise (topics, e.g., autonomy, about which there is a voluminous literature). In these respects, the project fell short of the mark.

On the other hand, as an effort to raise the question of vision to a place of prominence on the intellectual landscape, it was a significant success. Others, including especially Daniel Pekarsky, have also contributed to the meta-inquiry about vision in Jewish education—that is, not only the conversation about what are the appropriate aims in Jewish education but also the conversation about what we mean by "vision" and how we go about constructing and defending our conceptions of purposes.

Mode 5: Exploring Problems of Jewish Educational Practice

In general, the rise and fall of analytic philosophy of education had little direct influence in Jewish education. But at its best, analytic philosophy of education emerges from practice and has the capacity to hold up a critical mirror to practice—to help the practitioner go beyond "reflective practice" to a deeper understanding of the educational choices that must be made on a daily basis. Analytic philosophy of education, that is, can help practitioners answer the question of why they do what they choose to do or whether they ought to be doing something else. (In other words, analytic philosophy of education is also normative, not merely descriptive.)

In this sense, Mode 5 of Jewish educational philosophy—the exploration of issues or problems that emerge from Jewish educational practice—can be understood to represent a continuation of the legacy of analytic philosophy of education within the particular context of Jewish education.

Consider the organization of the Jewish day school into two parallel sets of subjects: "Jewish" subjects on the one hand (study of classical Jewish texts, practices, and history, as well as Hebrew language and literature) and "general" or "secular" subjects on the other (math, science, history, English language, and literature). For many educators, the separation of the two realms is a problem. Some propose that students should have the experience of going back and forth, a class in science followed by a class in Jewish texts. Some propose that students ought to consider topics from multiple perspectives ("Jewish" and "Western") or from multiple disciplines. For still others, what is important is the intentional forging of connections between classes wherever possible.

Each of these proposals rests on a set of assumptions—about the nature of subjects, about the nature of Judaism (is Judaism "non-Western," or "nonsecular," or "nongeneral"?), and especially about what ideas and attitudes ought to be cultivated in the students. Philosophical inquiry can play a role (and has played a role) in exploring these ideas, shedding light on these assumptions, and even recommending certain alternatives as more conceptually coherent and compelling.

This is just one example of a problem that emerges from Jewish educational practice. Consider that, if Jewish education is engaged in the interpretation of Jewish texts, this effort opens up a range of questions in hermeneutics. Or, more specifically, how might educators integrate the insights of the best contemporary critical scholarship on classical Jewish texts? Or if Jewish education is engaged in the promotion of commitments—commitments to a set of ideals, to an *ethnos*, or to a set of beliefs and practices—how might it simultaneously avoid indoctrination and promote autonomy?

These examples also point to two other important features of this fifth mode of Jewish educational philosophy. First, the philosophical study of problems of Jewish educational practice ought to engage parallel relevant inquiries elsewhere (in the first example above, the literature on curricular integration). And second, relatedly, this kind of philosophical inquiry frequently coexists comfortably with empirical educational research. Because the philosopher is focused on problems of practice, she benefits from understanding the nuances of the empirical educational realities (e.g., What actually happens when students study classical Jewish texts critically?). And conversely, the empirical researcher

relies on the development of theories of the practice in question. So the philosopher and the empirical researcher may pursue their inquiries with dramatically different methodologies—but participate in a shared conversation about practice.

A Challenge for the Field

Healthy, robust fields of inquiry are sustained by multiple people tackling common problems and questions. The conclusions that are reached by one inquirer are subjected to reexamination and critique, if not immediately then over time. But given the very small size of the field of Jewish educational philosophy, this rarely occurs. A challenge for the future of the field, then, is to develop a place for critical inquiry into the scholarship of colleagues—not to undermine one's colleagues but to build up a shared understanding. This would not entail a sixth mode of Jewish educational philosophy; rather, it would entail a deepening of inquiry within the modes that already exist.

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See also Character Development; Hermeneutics; Indian Religious and Philosophical Traditions and Education; Indoctrination; Muslim Educational Traditions; Peters, R. S.; Religious Education and Spirituality; Values Education

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Justice as Fairness

See Rawls, John

K

Kant, Immanuel

Immanuel Kant (1724–1804) is recognized as one of the most influential figures in the history of Western philosophy: the paradigmatic philosopher of the European Enlightenment. It is important to view Kant's work on education in light of his other work in order to understand a central topic, namely, his views on the philosophy of education—a daunting task even for the most dedicated Kantian scholar. This entry outlines some of the more valuable themes and discussions through this challenging and difficult territory, starting with an account of Kant's views on the aims of education. It then briefly presents some ideas concerning efficacy and autonomy, virtue and duty, cosmopolitanism and the highest good, and the power of judgment, and it ends with some remarks on two kinds of critique against the work of Kant in philosophy of education.

Kant's work made him famous, and he has had an enormous impact within and outside academia. The vast amount of interpretation, discussion, and criticism of his work continues to increase. Its influence is beyond doubt, and it continues to affect and challenge our ways of thinking.

Life and Work

Kant was born in Konigsberg, East Prussia (now Kaliningrad in Russia), and lived there throughout his life. He attended the University of Konigsberg from 1740 to 1746, enrolling as a student in theology, but he was attracted to mathematics and physics. After university, he became a private tutor for local families for nine years until he was appointed an instructor at the university in Konigsberg. He taught a variety of courses, including mathematics, anthropology, geography, the natural sciences, metaphysics, logic, and pedagogy. He was appointed professor of mathematics in 1770 and later of logic and metaphysics, a position that suited his interests.

When Kant was 57, he published the first version of his monumental *Critique of Pure Reason*, which changed the way philosophers and others thought about knowledge. Later on, he published works on ethics such as the *Groundwork of the Metaphysics of Morals*, the *Critique of Practical Reason*, and *The Metaphysics of Morals*. His third critique, the *Critique of the Power of Judgment*, dealt with ethics and aesthetics, and again, his work changed the way people thought about these topics. His other works include *Religion Within the Boundaries of Mere Reason* and *Anthropology From a Pragmatic Point of View*, written around the time of the *Metaphysics of Morals*. *Religion* concerned human beings' propensity for evil, and *Anthropology*, a subject he taught for more than 23 years and a very popular course among students—attended even by his colleagues—expressed a lifelong interest in the study of human nature. Here, he expressed his views on cosmopolitan knowledge and the value and importance of educating students to become "citizens of the world"—a topic he returned to in his "Lectures on Pedagogy" (Kant, 2011b).

Works on Education

Kant published only a few texts directly concerned with education, namely, his *Essays Concerning the Philanthropinum*, and his "Doctrine of the Methods of Ethics" (Kant, 2006c, § 6, pp. 477–484). The "Lectures on Pedagogy" (Kant, 2011b, § 9, pp. 441–499) were edited by his former student Friedrich Theodor Rink and published late in Kant's life. They are based on notes from Kant's "Lectures on Pedagogy," and it is unclear whether Kant himself shared the editing. Other texts of relevance for education are Kant's *Announcements of the Programme of His Lectures for the Winter Semester 1765–1766* and his "Doctrine of the Method of Pure Practical Reason" (Kant, 2007, § 5, pp. 151–163).

Aims of Education

> The final destiny of the human race is moral perfection, so far as it is accomplished through human freedom, whereby man, in that case, is capable of the greatest happiness. . . . How, then, are we to seek this perfection, and from whence is it to be hoped for? From nowhere else but education. (Kant, 2001, § 27, pp. 470–471)

This quotation indicates the overall aim of education for Kant: It should cultivate not merely the technical and pragmatic disposition of humans, the disposition to use objects and others for fulfilling specific ends, but also our moral disposition, our moral character for the pursuit of the highest good. Kant's reason for this is that

> the human being should not merely be skilled for all sorts of ends, but should also acquire the disposition to choose nothing but good ends. Good ends are those which are necessarily approved by everyone and which can be the simultaneous ends of everyone. (Kant, 2011b, § 9, p. 450)

This aim points to the cultivation of humans as autonomous beings capable of pursuing both personal and general happiness. Such an education must necessarily be designed in a cosmopolitan manner (see Kant, 2011b, § 9, p. 448), because it aims not at the fulfillment of specific interests either by parents or states, nor at the interests of specific groups of any kind but at "the best for the world and the perfection to which humanity is destined" (Kant, 2011b, § 9, p. 448)—the highest good. No single individual can achieve or pursue this on his or her own; it can only be pursued by the human species as such. The aim, then, is to civilize children and young people, to cultivate their skills for the fulfillment of specific interests in specific societies, and also to form their moral character. Kant (2006a) says that such an

> achievement is difficult because one cannot expect to reach the goal by the free agreement of *individuals*, but only by a progressive organization of citizens of the earth into and toward the species as a system that is cosmopolitically united. (p. 333)

This central task of education—the formation of moral character—can, according to Kant (2006c), be accomplished only through a steadfast commitment to virtue. The task is realized through a resolute conduct of thought, through cultivation of the use of reason in practice. By this is meant humans' understanding, imagination, and capacity to distance themselves from their inclinations and act for the sake of some specific end, to reflect on their inclinations as reasons for their actions, and possibly also to challenge and modify these reasons as needed.

From here, Kant (2011b) writes that education becomes the most important challenge for human beings:

> The human being shall make himself better, cultivate himself, and if he is evil, bring forth morality in himself. If one thinks this over carefully, one finds that it is very difficult. That is why education is the greatest and most difficult problem that can be given to the human being. (§ 9, p. 446)

Education should cultivate children's and young people's technical and pragmatic disposition, enable them to think for themselves, and optimize their freedom to set and pursue their morally permissible ends. Moreover, the formation of moral character is ultimately the outcome of free choice. Kant (2006c) writes,

> So too, it is a contradiction for me to make another's *perfection* my end and consider myself under obligation to promote this. For the *perfection* of another human being, as a person, consists just in this: that he *himself* is able to set his end in accordance with his own concepts of duty; and it is self-contradictory to require that I do (make it my duty to do) something that only the other himself can do. (§ 6, p. 386)

This, does not, however, suggest that the cultivation of the other's moral character should be avoided. On the contrary, Kant thinks it is a duty for us to

promote others' happiness, whose morally permitted end we also have to make our own. And since the formation of moral character is a morally permissible end, we should freely choose to cultivate it and enable each other to do so in education and elsewhere, which is hard work.

Efficacy and Autonomy

Since, then, the ultimate aim of education is the formation of character, people must render themselves both efficacious and autonomous as human beings. This involves acting in agreement with and being motivated by the hypothetical and the categorical imperative (see Kant, 2011a). The *hypothetical* imperative says that you constitute yourself as efficacious when you take the means to your end and act so that you achieve it. This capacity is also a distinctive feature of human beings (Kant, 2006c, § 6, pp. 391–392). The *categorical* imperative basically says that you render yourself autonomous not merely when you determine yourself to be the cause of your action but also when you conceive yourself as an agent with the capacity to acknowledge the ends you set, reflect on them, and possibly also challenge and change them as reasons for your action. It also suggests that you confer value on yourself as a rational creature with the capacity to distance yourself from the ends you set and value, reflect on them and decide whether you should act to fulfill, satisfy, or achieve any of them, and possibly also challenge and change them as ends worthy to achieve, and not merely as the external ends you set or have had set for you.

Kant (2011a) argues that there are two kinds of end: conditional and unconditional. The former is valued as useful for the sake of something else, and the latter kind of end is not valued because of "what it effects or accomplishes" (§ 4, p. 394) but

> only because of its volition, that is, it is good in itself and, regarded for itself, is to be valued incomparably higher than all that could merely be brought about by it in favour of some inclination and indeed, if you will, of the sum of all inclinations. (§ 4, p. 394)

It is the good will. Kant (2011a) famously argued in the *Groundwork of the Metaphysics of Morals* that "it is impossible to think of anything at all in the world, or indeed even beyond it, that could be considered good without limitation except a *good will*" (§ 4, p. 393). This suggests that we value our external ends because we consider ourselves important in our rational power to choose and act to achieve our ends, and in our capacity to challenge and change our ends as reasons for our action.

Valuing humanity is, therefore, the condition for valuing anything else. Kant (2011a) argued in the *Groundwork of the Metaphysics of Morals* that, as a rational being, you should act so that you relate to "*humanity, whether in your own person or in the person of any other, always at the same time as an end, never merely as a means*" (§ 4, p. 429). Valuing humanity also constrains your action, and is something those concerned in education should learn over time and respect; valuing humanity also suggests that people should learn to regulate the domination of their and others' inclinations and have the moral law as the determining ground of their will. Kant (2011b) says, for example, in his "Lectures on Pedagogy" (§ 9, p. 441) that "discipline or training changes animal nature into human nature . . . [and that] the human being must be accustomed early to subject himself to the precepts of reason" (§ 9, p. 442). This is because training and discipline, for Kant, are "merely negative" (§ 9, p. 442).

Cultivating our humanity means that we should preserve everyone's freedom not merely to set their own external ends but also to promote "the fulfillment of the morally permissible ends of all" (Guyer, 2000, p. 386). This in turn suggests that the young should cultivate their duty, their respect for the moral law and virtue, and their moral strength to comply with the moral law in education and elsewhere.

Virtue and Duty

Kant maintains that we cannot abolish our desires or inclinations, nor can we avoid being affected by practices, customs, or habits. What we can do, however, is regulate the inclinations, and challenge and change the practices, customs, and habits, when we comply with the moral law and have it motivate our will. Kant (2011a) argues that we maintain our freedom when we comply with the moral law and do not become the mere plaything of forces seemingly outside our control. In other words, we cultivate our autonomy—"the property of the will by which it is a law to itself (independently of any other property of the objects of volition)" (§ 4, p. 440)—when we act from duty and strengthen our will to comply with the moral law (the categorical imperative). Duty refers here to Kant's idea that we respect the humanity in others and ourselves as rationally self-governing creatures as ends in ourselves and not merely as a means to some further end. Duty also refers to self-constraint—that is, we develop our

virtue, the moral strength of our will so that we may overcome resistance by our or others' inclinations. And virtue can only be cultivated through practice, not through, for example, contemplation. It is something we acquire when we set and pursue our morally permissible ends—that is, when we render ourselves efficacious and autonomous in practice.

Kant (2006c), in his *Metaphysics of Morals*, distinguishes between duties to ourselves and duties to others, arguing that we could cultivate the strength of our will by acknowledging our duties in practice. The duties we have to others and ourselves are either perfect or imperfect: they are *perfect* when they are forbidden, negative, or limiting and prescribe exactly what one cannot do either to oneself or any other; and they are *imperfect* when they leave "a playroom (*latitudo*) for free choice in following (complying with) the law, that is, that the law cannot specify precisely in what way one is to act and how much one is to do by the action" (§ 6, p. 390). Examples of imperfect duties to oneself are the duty to cultivate one's talents and to seek moral perfection. Examples of imperfect duties to others are the duty to promote the happiness of the other and the duty to love the other. These duties should guide us when we set our ends in life, and since they are imperfect duties, they leave a great deal of latitude in deciding what action to perform to achieve such ends. They also require that we cultivate our judgment when doing so.

This suggests that children and young people as well as others should not merely promote everyone's morally permissible ends but also cultivate their judgment regarding how to accomplish this. It also suggests that people should not pursue their personal ends, which are determined by their desires or personal interests, but seek the happiness of all. That is, they should not pursue ends that limit or destroy anyone's freedom of choice; they should instead learn to promote and pursue the morally permissible ends of all,

> and because happiness just consists in the fulfillment of ends, it follows . . . that at least under ideal circumstances maximal compliance with the fundamental principle of morality [the moral law] would itself result in maximally permissible human happiness. (Guyer, 2000, p. 386–387)

That is the highest good.

Cosmopolitanism and the Highest Good

The highest good cannot, then, be something that individuals achieve, or something that the species can achieve or make progress toward achieving. It can only be brought about by their rational capacity—that is, their humanity as an end in itself, and as a freely chosen end of their action in various social, cultural, and political settings. This is why education, for Kant (2011b), is not merely one of the most difficult challenges for human beings, it also is the means whereby they can make themselves. He writes, "The human being can only become human through education. He is nothing except what education makes out of him" (§ 9, p. 444). This suggests that "education is an art, the practice of which must be perfected over the course of many generations" (§ 9, p. 446). Furthermore,

> Children should be educated not only with regard to the present but rather for a better condition of the human species that might be possible in the future; that is, in a manner appropriate to the idea of humanity and its complete vocation. (§ 9, p. 447)

Kant (2011b) continues,

> This principle is of great importance. Parents [and I would add—states] usually educate their children merely so that they fit in with the present world, however corrupt it may be. However, they ought to educate them better, so that a future, better condition may thereby be brought forth. (§ 9, p. 447)

Such a progressive orientation—toward the highest good—can be accomplished only through voluntarily formed ethical communities (realm of ends)—that is, systematic unions of "rational beings through common laws" (Kant, 2011a, § 4, p. 433), which the citizens make themselves (see Kant, 2011a, § 4, pp. 433–463, for a discussion on the notion of realm of ends). In the words of Allen W. Wood (2011), these cannot be "subject to any sort of limitation as to its extent, as by restricting it to people who live in a certain geographical area or belong to a specific race or heredity" (p. 131), nor the mere cultivation of the technical and pragmatic disposition. A progressive orientation suggests instead, says Wood, that we as human beings "pursue in common a set of ends that are systematically united into a 'cosmopolitical combination' or 'realm,' that is, an organic unity" (p. 133)—that is, we pursue ethical communities in education and society at large in which we as human beings value our humanity (the content of which respects the free use of reason of each citizen) and comply with the principles of practical reason and in which we cultivate the power of our judgment.

The Power of Judgment

For Kant, it is important that children and young people (as well as adults) learn to use their reason actively—that is, to think for themselves in the pursuit of the highest good. This suggests that rather than merely learning or acquiring knowledge passively, they should *actively* acquire knowledge through their critical use of reason. It further suggests that they should not embrace any specific values or norms of action without also respecting the humanity in themselves and in others. Moreover, the young should not merely be disciplined, civilized, and cultivated through education but also be enabled to freely choose to cultivate their power of judgment in education and elsewhere—that is, to comply with the suggested principles of practical reason and cultivating also their imaginative capacity—in particular, the free play of imagination and understanding. Kant (2011b) says, "The art of education or pedagogy must . . . become judicious if it is to develop human nature so that the latter can reach its vocation" (§ 9, p. 447). Kant suggested that the cultivation of the power of judgment could be enabled through catechistic moral education as well as through aesthetic education.

Engaging in catechistic moral education enables students to use their reason freely, actively, and critically to acquire or construct knowledge rather than merely memorizing questions and answers. This they can do through, for example, examples in education, taken from literature, plays, and stories. An example is, however, "not for copying, though it is certainly for emulation." Kant continues,

> The ground of the action must be derived, not from the example, but from the rule; yet if others have shown that such an act is possible, we must emulate their example and also exert ourselves to perform such moral actions, and not let others surpass us in that respect. (Collins, in Kant, 2001, § 27, p. 334)

And for Robert B. Louden (2011),

> A sharp and vivid example brings the moral point home for human beings in a way that the abstractions of theories, principles, and rules often cannot. [And he continues:] . . . the example itself does not ground or justify the principle—quite the contrary. Rather, the right kind of example helps human beings to see what is at stake in the principle. Examples help to make the moral law visible to human beings. (p. 93)

The power of judgment, and in particular the free play of imagination and understanding, cannot however be enabled merely through catechistic moral education—by thinking, for example, about moral examples. One must also use one's imagination in aesthetic education—that is, use reflective judgment and not merely determinate judgment. The former is defined as the judgment with which we *seek* concepts and judgments relating to the particular, and the latter is defined as the capacity to *apply* given concepts and judgments to the particular (see Kant, 2006b, § 5, pp. 179–180). Reflective judgments do not follow any particular rule, nor can they be constrained by any rule: They express the free play of the imagination and understanding and are based on the feeling of pleasure. They are also an expression of human autonomy. Genius, in particular artistic genius, lies precisely in, inter alia, the transcendence of any particular use of given concepts and judgments, in the free play of imagination and understanding, and in the pleasure of imagining things differently.

Kant believed that he had demonstrated here the power of our judgment. This was not merely because he thought that he had demonstrated the human capacity to grasp the moral law and, thus, to regulate our inclinations by complying with the principles of practical reason and render ourselves efficacious and autonomous but also because he thought that he had established our capacity to experience beauty as a symbol of morality and, in particular, our autonomy and, thus, that our moral character can be enabled in moral and aesthetic education—a challenging task even for generations to come.

Critique

Kant's work and its implications for education have not gone unnoticed in philosophy and in the philosophy of education. An increasing number of publications in, for example, philosophy discuss his work in relation to educational issues. Philosophers of education also have discussed his work—and criticized it; two kinds of critique are discussed here. The first concerns Kant's supposed focus on the individual and his alleged lack of concern for the impact and value of social relations. Nel Noddings, for example, asserts that in "Kant's ethic, the individual—as the general mechanism of practical reasoning became central, but the individual—as the actual, embodied person—became irrelevant" (Noddings, 1995, p. 161; see also Biesta, 2006; Vanderstraeten & Biesta, 2001).

This critique is, however, misguided, as seen from the discussion above; Kant was indeed concerned about the character of the embodied person and social relations (see Shell, 1996, for a discussion on Kant's views on the embodiment of reason, and Wood, 2011, on Kant's views on the character of social relations).

The second kind of critique is directed toward what is considered Kant's lack of a theory of virtue and his lack of concern for love and care (see, e.g., Noddings, 2002). Here, it may be helpful to quote Martha C. Nussbaum (1999) on "a misleading story," which affects, inter alia, the work of Kant:

> Here is a misleading story about the current situation in contemporary moral philosophy: We are turning from an ethics based on Enlightenment ideals of universality to an ethics based on tradition and particularity; from an ethics based on principle to an ethics based on virtue; from an ethics dedicated to the elaboration of systematic theories to an ethics suspicious of theory and respectful of the wisdom embodied in local practices; from an ethics based on the individual to an ethics based on affiliation and care; from an ahistorical detached ethics to an ethics rooted in the particularity of historical communities. (pp. 163–164)

Nussbaum shows, in the same article, that this story affects Kant's work—and that Kant *is* concerned with virtue. We have also seen that Kant discussed the value and importance of cultivating virtue for human beings to comply with his suggested principles (see Kant, 2006c, for a lengthy discussion on virtue; and Roth, 2011, 2012, on the function and status of principles and the value of educating character when striving for the highest good together). Moreover, we also see from the discussion above that Kant emphasized the value and importance of enabling human beings to cultivate their virtue so that they can pursue the highest good *together* in various social, cultural, and political settings—and that this requires that their freedom to render themselves efficacious and autonomous, and to cultivate their sense of beauty and genius, be optimized. For Kant, however, no individual can achieve this alone, or independently, of the circumstances: It can only be pursued together and in relation to these and is, as seen, hard work.

Klas Roth

See also Autonomy; Education, Transcendental Justification of; Hegel, Georg Wilhelm Friedrich; Noddings, Nel; Rationality and Its Cultivation; Virtue Ethics

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Key, Ellen

See *Century of the Child, The*: Ellen Key

Knowledge, Analysis of

Philosophers since Plato have produced analyses of knowledge, describing what it means to say that someone knows something. Because gaining knowledge is a core goal of education, understanding what "knowledge" means is key for thinking about teaching and learning. This entry describes the analysis of knowledge that has been at the center of philosophical discussions and sketches ways in which this analysis remains difficult to formulate precisely yet still is useful for thinking about teaching and learning.

The type of knowledge at issue here is knowledge of propositions, such as knowing that the earth revolves around the sun. The analysis is not applicable to knowledge by acquaintance, where saying "Ralph knows Fred" means that the two have met. The analysis presented here is also not directly applicable to having a skill, such as knowing how to play the guitar.

Knowledge as Justified True Belief

An intuitively plausible analysis of what it means to say that someone knows something (a proposition) specifies three conditions that must be met: (1) the person must believe the proposition, (2) the proposition must be true, and (3) the person must be justified in believing the proposition (i.e., he or she must believe it for good reasons). Saying that a person knows something implies that these three conditions are met. The analysis also asserts the converse, that meeting the three conditions implies that the person knows the proposition.

This is referred to as the justified true belief (JTB) analysis of propositional knowledge. The rationale for the belief and truth condition seems obvious. It would be contradictory to say both that Jeff *knows* that the earth revolves around the sun and that Jeff does not believe that the earth revolves around sun. Similarly, it would be contradictory to say both that Jeff *knows* the earth revolves around the sun and that it is *not true* that the earth revolves around the sun.

The appeal of the third condition—justification—can be seen by considering some education examples. If a high school student says he is sure (belief) that all squares are rectangles (true proposition) but struggles to give an adequate reason for this belief ("I can't remember seeing a square that wasn't a rectangle," "I think they might be just two names for the same thing," . . .), we wouldn't say that he knows this. He happens to believe it, and it's true, but because he doesn't have a good reason for believing it, he doesn't really know. He's just making a lucky guess. To know it, he would need to gain good reasons for believing it.

Gettier's Critique and Responses

Philosophers have identified problems with the JTB analysis that center on the justification condition. In a brief article, Edmund Gettier generated examples to show that some justified true beliefs do not match the intuitions we have for what should be called knowledge. In the cases he poses, as in many other cases philosophers have devised and discussed in the subsequent decades, the problem comes about because the justification does not function to support the true belief. Instead, the justification contains a fatal flaw, and the truth of the proposition arises instead from some lucky accident, a case of "epistemic luck."

Consider an example drawn from a *Mission Impossible* movie. A Russian guard is sitting at the end of a long hallway. He looks up periodically and sees no one in the hallway. Hearing a noise, he briefly leaves his post. While he is gone, two American agents push in to place a screen, onto which they project an image of the empty hall; the screen is located midway up the hall; but the image is so perfect that the image the guard sees perfectly matches the empty hall he saw before. With the screen in place, enemy agents go up the hallway and enter a side room, for a time leaving the hallway empty of people. Now, when the guard looks up, he *believes* that the hallway is empty of people. And it is. He has a true belief. He also has a justification for believing the hallway to be empty, namely, that what he sees looks like an empty hallway, and he has no reason to doubt his usual interpretation of what he sees. But our intuition is that he does not *know* that the hallway is empty, because what he is actually seeing is just a projection; he can't actually see what is or isn't present beyond the screen. So the guard has a justified true belief but not knowledge.

This example, and others that can be similarly constructed, show that the JTB analysis does not quite capture what we mean by "knowledge." The examples are cases where all three conditions are met, but we would not say that the person *knows* the proposition.

Philosophers have tried a variety of approaches to address Gettier's examples and others like them. Some approaches suggest that an additional condition should be added to rule out the cases where the proposition is true by a lucky accident. For example, the fourth condition might be that in addition to being justified in the belief, the person is also justified in ruling out all "relevant alternatives" to the belief. In the example above, this would mean that the guard would need to be justified in ruling out all "relevant alternative" beliefs about the hallway. The problem with this approach is its vagueness about what constitutes a "relevant alternative." Should the existence of a projected image be considered such an alternative?

Other approaches to address the Gettier examples have tried to strengthen or revise the justification condition itself. Rather than requiring that the person be "justified" in the belief, the third condition might be that the belief arises from a reliable cognitive process or that the belief must be caused by the fact stated in the proposition. The first approach is a more precise statement of what "justified" means; the second specifies a substantive connection between the belief and the proposition.

The so-called virtue-theoretic approach also introduces a substantive link between reason for a belief and its truth. Ernest Sosa's description of this approach names three characteristics of beliefs: accuracy, adroitness, and aptness. *Accuracy* is equivalent to truth. *Adroitness* refers to a belief arising from a process that is likely to lead to adoption of true beliefs, though it may sometimes go awry. Beliefs produced by reliable cognitive processes would be adroit. Sosa connects *aptness* to knowledge by tying accuracy and adroitness together: A belief is apt if and only if it is accurate *because* it is adroit. Knowledge is apt belief—that is, a belief that is held because it is true in a way and tied to the process generating the belief.

All these attempts handle some examples, deciding whether a belief counts as knowledge in a way that corresponds to most people's intuitions. But for every such solution, philosophers have been creative in generating new examples where the analysis does not accord with what seems appropriate to say or where the proposed analysis remains unacceptably vague about how to decide. The key problem remains the difficulty in specifying a substantive link between the truth of the proposition and the person's reasons for believing it.

Adapting the Justification Requirement to the Level of the Child

Despite these continuing difficulties in getting the analysis of knowledge precisely right, the intuition that knowledge requires belief, truth, and appropriate justification remains a key principle in thinking about the goals of education. That is, for the realm of propositional knowledge, educators want students to acquire justified, true beliefs. All three components are desired.

For discussions about teaching and learning, the difficult questions about Gettier examples are not the focus of questions about justification. Educational discussions about what justifications are adequate center on judgments about what types of justification can be expected for students at different ages and at different points in their studies. In deciding whether one knows that heating water will change it from a liquid to a gas, a simpler justification would be expected from a second-grade student than from a college chemistry major. If the second grader said that she knew this because she has seen steam rise

from a pot heating on the stove, the teacher might say this was good enough. But if the college student offered that as the only justification, the professor might not say that this counted as knowledge.

In a book addressing goals of education, the psychologist Jerome Bruner stated the hypothesis that children at any age and level could come to learn about any topic. He was able to make this bold claim by acknowledging that the form of knowledge would be appropriate to the level of the child. This hypothesis signaled that the justification a student must possess before we say that the student knows the content will vary across children and stages of development. The JTB analysis of knowledge highlights the necessity for justification as a component of knowledge, but it leaves open the specifics of what will count as adequate justification. Philosophers' struggles with Gettier examples reinforce the point that not any justification will do. Philosophers' counterexamples present abnormal, sometimes bizarre, situations to make their point. Those examples are unlikely to arise in classroom settings. But they serve as a reminder that not all justifications support knowledge; as educators decide what students should know and how to assess their knowledge, they must attend carefully to the reasons students have for beliefs, as well as to whether their beliefs are accurate.

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See also Epistemologies, Teacher and Student; Knowledge, Structure of: From Aristotle to Bruner and Hirst; Teaching, Concept and Models of

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Knowledge, Structure of: From Aristotle to Bruner and Hirst

Discussions of the structure of knowledge have a long history, extending from antiquity to the present. However, it is dangerous for educational theorists, researchers, policymakers, and practitioners to act as if now the structure of knowledge is settled; doing so promotes false simplicity and limited perspective. If the structure of knowledge is about an intellectually rich historical conversation that makes us increasingly civilized beings, as Michael Oakeshott declares in *Rationalism in Politics* (1962), it is no mean feat to enter that conversation with the intellectual and moral fortitude it merits. Taking a cue from John Dewey's *The Quest for Certainty* (1929), cautious uncertainty may be the best way to address the structure-of-knowledge conversation.

Often construed by philosophers as an epistemological problem, the structure of knowledge invokes multiple ways of knowing such as experimentation, empiricism, revelation, authority, rationality, intuition, meditation, and embodied knowing. Western epistemological history can be traced to ancient Greeks. A mentor–student genealogy extends from Socrates, to Plato, to Aristotle, and to Alexander the Great. Socrates (469–399 BCE) exemplifies dialogic structuring of knowledge as he interacted with protagonists in contextualized encounters in search of truth, goodness, beauty, and virtue. Plato (429–348 BCE), the idealist author of Socratic dialogues of his mentor, articulated in *The Republic* and other dialogues a structure of knowledge in a formal realm of ideas beyond the senses—this realm of the "forms" is the only reality, and what is commonly regarded as knowledge of the world around us (the world that we experience via our senses) is not knowledge at all.

Systematization of Knowledge in the Western Tradition

Aristotle (384–322 BCE), Plato's student and paragon of realism, is considered the greatest systematizer of knowledge. His *Organon* delineates several areas; the first is logic, particularly variations on the syllogism. A second group of treatises includes sciences such as biology and physics. In metaphysics, a third group, he rejected Plato's separate realm of

forms. Rather, Aristotle held to a universe of matter and form as empirically verifiable, building science on sensory experience. Aristotle's fourth group deals with practical philosophy, literature, and conduct, expressed in his *Nichomachean Ethics*. The *Politics*, his fifth group, focuses on government, and the sixth group, the *Poetics*, is a lauded, though fragmentary, treatment of literary criticism. These categories constitute the basis of knowledge structures for education. The life of Aristotle's most noted student, Alexander the Great (356–323 BCE), illustrates that knowledge should be structured in subservience to action in leadership, conquest, and battle.

The Western tradition continued to build on the knowledge structures of Plato and Aristotle, as well as in the tradition followed in the Roman Empire, such as in the educational perspectives of Cicero (106–43 BCE), Quintillian (35–100 CE), and others who developed curriculum and pedagogy to train citizens in rhetoric and oration. The *trivium* (grammar, rhetoric, and dialectic) and *quadrivium* (arithmetic, geometry, astronomy, and music) constitute the Seven Liberal Arts that emerged from these traditions to travel across the centuries. These foundational structures were augmented by St. Augustine (354–430), who coupled Plato with Christian principles, and later by St. Thomas Aquinas (1225–1274), who integrated them with both Aristotle and Christian theology. Myriad Christian theologians created variations throughout the Middle Ages, embedding the spiritual with structures of knowledge.

Western explorations and invasions from Alexander to Constantine, through the Crusades and Renaissance, met Middle Eastern philosophers and theorists such as Baba Bathra (ca. 21 CE), Maimonides (1135–1204), Gluckel Von Hameln (1644–1724), and Moses Hayyim Luzzatto (1707–1747) of the Judaic tradition; and Muhammad (570–632 CE), Al-Ghazali (1058–1111), and Ibn Khaldoun (1332–1406) of the Islamic heritage. Thus, Western theorists were faced with diversity that challenged many preconceptions about the structure of knowledge inherited from Plato and Aristotle. Nevertheless, in Western Europe, there emerged what the educational historian Robert Ulich (1890–1977) called the Humanist Evolution. In this pedagogical dimension of the Renaissance, scholars such as Arena Silvio (1405–1464), Desiderius Erasmus (1466–1536), Ignatius Loyola (1491–1556), Martin Luther (1483–1546), and Michel de Montaigne (1533–1592) re-invoked the ancient Greek and Roman scholars. Besides punctuating their work with citations from antiquity, scholars began to break that mold by departing from medieval religious education and emphasizing vernacular languages, glory, social success, beauty, and intuition. Situating knowledge within action and emotion, they raised questions that point toward less structured knowledge.

A new kind of structure emerged with the rise of experimental science in the works of Francis Bacon (1561–1626), René Descartes (1596–1650), and Galileo Galilei (1564–1642). New and old structures were organized by Jesuits under Ignatius Loyola's rigorous leadership. Disciplinary structures were deepened by modernist educators through Johann Amos Comenius's (1592–1670) depiction in *The Great Didactic* and *Orbis Pictus*. Structures of knowledge that followed, as illustrated by William Petty (1632–1687), John Locke (1632–1704), Benjamin Franklin (1706–1790), and John Stuart Mill (1906–1873), sought utilitarian ends.

Structures of Knowledge in Modernity

Focus on the learner as a center of curricular structure can be traced in key educational classics by Jean-Jacques Rousseau (1712–1778), Johann Heinrich Pestalozzi (1746–1827), Johann Herbart (1776–1841), Friedrich Froebel (1782–1852), and Francis Parker (1837–1902). Natural tendencies in the child were seen as embryonic knowledge structures, illustrated by Herbart's doctrine of *apperceptive mass*, or accumulated experiential knowledge that seeks organization. This tendency can be seen as a precursor to Dewey's (1859–1952) advocacy of learners continuously restructuring knowledge by moving on a continuum between the *logical* (extant disciplines) and the *psychological* (interests and concerns of learners) in his *Child and the Curriculum* (1902) and *Democracy and Education* (1916). Transcendentalists such as Ralph Waldo Emerson (1803–1882) and Henry David Thoreau (1817–1862) also influenced Dewey. Their confidence in the inherent goodness of humans and nature and their ardent faith in independence and self-realization brought a tendency to question and transcend extant structures, including predetermined structures of knowledge. Dewey added social and political structure to knowledge immersed in participatory democracy.

Transcendentalists, especially Thoreau, called attention to the Far East and thus awakened a

repertoire of perspectives on non-Western structures of knowledge, too often neglected in structure-of-knowledge discussions. In China, knowledge structures can be seen as an intuitive grasp of nature through Taoist roots in Lao-Tse (6th century BCE) and in later poets in the Tang Dynasty, such as Li Bai (Li Po) and Tu Fu, or to exemplars in Confucius's (551–479 BCE) image of concentric communities (individual, family, town, state, world, universe) in search of diversity in unity and unity in diversity. In the Hindu traditions or those built on teachings of Gautama Buddha (b. ca. 560 BCE) in India, one sees knowledge structured as progressions to being at one with a world spirit. Buddhist structures of knowledge are integrated in an evolving path to mindfulness amid the flux of life. Alternative forms of knowledge in other parts of the non-Western world offer more challenges to Western structures of knowledge. For instance, Molefi Kete Asante's discussions of knowledge traditions of sub-Saharan Africa in his *Afrocentricity* (1991) illustrate a billowing image of structure that merges with function or process. This is well depicted in a story of East African heritage retold by Jack Kornfield in a 1993 book called *A Path With Heart*, in which a tribe developed a song for each newborn baby to be sung at birth, special occasions, marriage, and ultimately death. Here is an embodiment of knowledge of self and other that differs starkly from Western structures and that was often demolished by colonizers—and is now sometimes revived in postcolonial contexts. Similarly, in Latin America, the scholar-activist Jose Marti's (1853–1895) stories, poems, and songs or Carlos Fuentes's (1928–2012) notion of a dream world with at least 50 ghosts behind every human being exemplifies orientations to knowledge that connect with the multiple selves of Mikhail Bakhtin (1895–1975) or correspond to magical realism wherein humans can morph back and forth into animals and other living things. This foray into alternatives illustrates serendipitous visions of knowledge almost like a flowing liquid portrayed in the Peruvian anthropologist Carlos Castaneda's (1925–1998) writings about the Yaqui way of life. During the second half of the 20th century, Paulo Freire (1921–1997) advocated in *Pedagogy of the Oppressed* (1970) a problem-posing pedagogy rather than the dominant oppressive "banking" education, finding knowledge structured in the people's experience and praxis.

What appears to Westerners as magical and mysterious beliefs and practices might be built on forgotten knowledge structures. Nonetheless, attempts to understand knowledge structures must seek diverse perspectives lest they be narrow and prejudicial. Globally cosmopolitan Westerners, however, see with broad perspective even within the contours of their own traditional vantage point. By putting realms of philosophy other than epistemology in bold relief, philosophers could question dominant structures of knowledge: What shape would knowledge take if the view was metaphysical, focusing on the nature of reality, or if the focus was as an ontological problem about being, an aesthetic problem about beauty or pattern, an ethical issue of good and evil, an axiological question about what is valuable, a political problem of how humans live together, or a theological problem about the nature of the deity? One can reflect on ways Martha Nussbaum's highly acclaimed *Love's Knowledge* (1990) pushes readers to ponder the reciprocal value of literature and philosophy that leads to interdisciplinary perspectives as a basis for ethical conduct. Such a stance is reminiscent of the earlier and highly germinal *Bildungsroman* novels by Johann Von Goethe (1749–1842), such as *Wilhelm Meister's Apprenticeship* (1796), and works focusing on the complex maturation of human character by later authors from Charlotte Bronte and Charles Dickens to Hermann Hesse, Ralph Ellison, and Toni Morrison. Drawing on existential perspectives from philosophy and literary imagination, Maxine Greene has advocated passion for pluralism in education.

Curriculum Theory and the Structure of Knowledge

Toward such ends and directly from the sciences, Michael Polanyi (1891–1976) has characterized the personal nature of knowledge and its tacit dimensions. In striving to educate whole human beings, Dewey argued in *The Way Out of Educational Confusion* (1931) that the arbitrary and artificial organization of knowledge into disciplinary categories was a great source of confusion when applied to education because it does not capture the complexity of transactions between knowledge and learners. While Dewey asserted that disciplinary structure was fine for encyclopedias, he emphasized that interests and experiences of learners must be integrated with structure of knowledge and adjusted to the educational situation. Dewey's notion of structures as artificial is surprisingly similar to postmodern critiques by Michel Foucault (1926–1984) whose work focused on an archaeology of knowledge and

later on genealogies of knowledge. It fuses the emotional, social, and political as integral to structures of knowledge.

Since the beginning of the 20th century, practical instantiation of structures of knowledge can be seen in curriculum. The curriculum field is a contested ground among several orientations: intellectual traditionalists, social behaviorists, experientialists, critical reconstructionists, and postmodernists. Intellectual traditionalists advance structures of knowledge from the liberal arts and sciences through work by Charles Bagley, Robert M. Hutchins, Alexander Meiklejohn, Mortimer Adler, and others. They argue that life is enhanced by consideration of the great ideas derived from the disciplines of knowledge. Social behaviorists often combined empirical orientations, social efficiency, and analytic orientations in work by Franklin Bobbitt, W. W. Charters, Ralph Tyler, and others. Bobbitt, for instance, wanted curriculum structures to be derived from empirical study of the activities of successful adults rather than from the disciplines. John Dewey, William H. Kilpatrick, L. Thomas Hopkins, and others are often associated with experientialist perspectives wherein knowledge is structured from the interests and needs of learners. Some connect this with the developmental stages in Jean Piaget's (1896–1980) research, or with *scaffolding* based on Lev Vygotsky's (1896–1934) notion of a *zone of proximal development*—and they call the agglomeration of perspectives of Dewey, Piaget, Vygotsky, and others as the roots of *constructivism*. A different experientialist tack is taken by Max van Manen, who calls for phenomenological hermeneutics that focuses on lived experience before knowledge is theorized.

Critical reconstructionists, whose work derives from that of Karl Marx (1811–1883) and Antonio Gramci (1891–1937), as well as from Jürgen Habermas (1929–) and others (e.g., George Counts, Carter G. Woodson, Harold Rugg, Paulo Freire, Paul Willis, Michael F. D. Young, Michael Apple, Henry Giroux, Jean Anyon, and William Watkins) influenced by the Frankfurt school, offer curriculum theory that holds knowledge to be structured by pervasive political and ideological structures of society. They assert that knowledge is reproduced prejudicially according to socioeconomic class, race, ethnicity, gender, ability, health, place, belief, age, appearance, membership, language, nationality, sexuality, and other factors. Regarding gender, the construction of knowledge is differently and poignantly posed by feminist scholars such as Janet Miller, Madeleine Grumet, and Patti Lather, and womanist scholars and writers such as Alice Walker, Toni Morrison, Annette Henry, Patricia Collins, bell hooks, and Sabrina Ross. Recently, too, queer theorists such as Deborah Britzman, Janet Miller, James T. Sears, William Pinar, Erica Meiners, and Therese Quinn have expanded conversation on this complex topic. Postmodernists in curriculum studies (e.g., William Doll, William Pinar, and Patrick Slattery) eschew master narratives and advocate complicated conversations among multiple narratives of all involved in any educational situation. This, of course, runs the risk of being a master narrative itself that says there are absolutely no master narratives.

In policy and practice, structures of knowledge became a highly contested issue during the post-Sputnik curriculum reform efforts championed by the cognitive psychologist Jerome Bruner, who argued in his *The Process of Education* (1960) that students at early ages should be exposed to educational activities that enable them to internalize structures of the disciplines so that they have an intuitive imaginative grasp of these disciplines, which in essence is the same as that possessed by scientists, mathematicians, artists, musicians, and social scientists. (Understanding the logical structure of a discipline allows the learner, as well as the expert, to assimilate the changes or developments that inevitably occur in that field over time.) This work led to much debate in the 1960s and 1970s about whether all disciplines and areas of study possessed inherent structure (see key anthologies by G. W. Ford and L. Pugno, 1964, and Stanley Elam's *The Structure of Knowledge and the Curriculum*). An elaborate philosophical statement was published in the same year by Philip Phenix's *Realms of Meaning*, which delineated knowledge structures called *symbolics*, *empirics*, *esthetics*, *synnoetics*, *ethics*, and *synoptics*.

In the 1970s, Paul Hirst extended the work of R. S. Peters (1919–2011) in analytic philosophy of education to address the issue of how the structures differed within various domains of knowledge (the disciplines). Hirst identified four characteristics of structures, each of which differed across knowledge domains: The core concepts differed across disciplines, as did the logical relationships among them and the "tests against experience"; and the different forms of knowledge have developed unique techniques and skills. On the basis of these differences in their structures, Hirst was able to identify seven forms of knowledge or disciplines: (1) mathematics,

(2) physical sciences, (3) human sciences, (4) history, (5) religion, (6) literature, and (7) the fine arts.

In the late 1960s and 1970s, Joseph Schwab (1909–1988), who earlier wrote about structures of knowledge in curriculum using Deweyan spectacles, drew on Aristotle's tripartite treatment of inquiry (theoretic, practical, and productive). He called for a pragmatic discarding of *moribund* stable theoretic inquiry that focuses on overgeneralized problems, empirical methods that seek lawlike principles for education, and ends of knowledge *qua* knowledge and advocated replacing it with fluid practical inquiry that looks for situational insights to interact with and remediate specific problems by engaging in productive eclectic arts of matching and tailoring theories with situational needs, thereby creating precedent to anticipate and generate alternative practices to enhance decision and action.

Conclusion

There is much debate today between subject matter specialists in curriculum and instruction and curriculum generalists. While subject specialists hold that knowledge is structured differently in each discipline or field, generalists hold that foundational considerations must address knowledge from myriad realms of human endeavor, not epistemology alone. Thus, one may be correct to conclude that the structures of knowledge conversation remain unsettled, enabling educators to keep alive basic questions on what is worth knowing in educational theory and practice.

William H. Schubert

See also Bruner, Jerome; Dewey, John; Greene, Maxine; Hidden Curriculum; Knowledge, Analysis of; Liberal Education: Overview; Peters, R. S.; Radical Constructivism: Ernst von Glasersfeld; Schwab, Joseph: The Practical

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Kuhn, Thomas S.

Thomas S. Kuhn (1922–1996) is best known for popularizing the term *paradigm* and for providing an alternative account of how scientific inquiry is conducted and the nature of and relationships between scientific activity and knowledge creation. Kuhn was a doctoral student in theoretical physics at Harvard, planning to make a career as a scientist, when an experience while teaching science to undergraduate nonscience majors opened his eyes to the import of the history of science. In 1962, he published his groundbreaking *The Structure of Scientific Revolutions.* In it, he argued that science is not merely the product of scientists working with what was previously known to uncover new truths but rather that the most important events in science are jarring epiphanies that break with the tradition of a particular scientific discipline and send inquiry in new and radically different directions (thus producing a scientific revolution).

Although many scientists, historians, and philosophers have criticized Kuhn's interpretation of the history of science for a variety of reasons (the primary critique centers on the relativistic implications of Kuhn's work), he is still very influential in the philosophy of science, the philosophy of social science, and, perhaps to a slightly lesser degree, social science and educational research. While Kuhn's ideas underwent substantial changes over the course of his career, this entry will focus on what Kuhn explicated

in *Structure*, as it is the boldest and best-known articulation of his ideas.

The Structure of Scientific Revolutions

Kuhn's exploration of the history of science led him to question the traditional conception that contemporary scientific beliefs are the result of a long history of scientists building onto preexisting knowledge. Perhaps, more important, Kuhn began to question the commonly held assumption that current scientific beliefs are situated at the end of a long line of prior work that was homing in on the objective truth. Kuhn saw more differences than similarities between scientific eras. For example, traditional conceptions of scientific progress hold that Newtonian physics is built on and thus is somewhat similar to its theoretical predecessors. Kuhn argued that Aristotle's theories, rather than being the primitive foundations of Newton's thought, were actually an entirely different way of understanding the physical world, starting with other fundamental distinctions than Newton's mass, velocity, and gravitation.

Normal Science, Scientific Revolutions, and Paradigms

Kuhn identified two distinct and alternating periods or phases that recur in the history of science: (1) normal science and (2) scientific revolution. Normal science occurs when the work of scientists draws explicitly and directly from a foundation of prior work and past understandings. Normal science, in the Kuhnian sense, is a period when the direction and interpretation of inquiry is set by the aims, language, rules, and norms that constitute a framework that governs the discipline at that particular time; the aim of inquiry is to expand this normal framework and to fill out any gaps it may contain, but the aim is not to challenge or replace the framework itself. This is what Kuhn refers to as working within a paradigm (his concept of a paradigm as developed here seems to draw on Ludwig Wittgenstein's notion of a "form of life").

Kuhn highlights how normal science within a given paradigm can constrain inquiry, going so far as to refer to a paradigm as an "inflexible box" and claiming that ideas that do not fit in the box often do not even register as potentially relevant. Within this box, scientific activity tends to work toward the shoring up of the predominant way of thinking. Note just how restrictive a Kuhnian paradigm is: It is clear that according to *Structure*, groundbreaking scientific breakthroughs do not take place while scientists are engaged in paradigmatic "mop-up" work (although this is work that can lead to advances *within* the paradigm, for instance, the more accurate determination of the value of a physical constant or a more accurate count of the number of planets in the solar system). This brings us to the crux of Kuhn's argument, the scientific revolution.

Since work within a paradigm is essentially conservative, Kuhn points to sudden jarring events in the history of science as the means by which major new discoveries were made, discoveries that changed the course of inquiry. Kuhn develops an explanation of how "normal" scientific work within a paradigm eventually becomes ripe for revolution, but his basic premise is that scientific revolutions represent sharp breaks with past ways of understanding. Whereas revolutions become more likely when normal scientific work within an existing paradigm fails to account for an increasing number of phenomena or anomalies (a situation that he refers to as a crisis), Kuhn sees the revolutionary turning point as a somewhat mysterious and often unexplainable event. Kuhn's version of how this important (revolutionary) scientific change comes about is that essentially it is a private, creative act by an individual who is immersed in the current paradigm but who is determined to find an explanation for some anomalies that the paradigm cannot seem to deal with and who resolves the puzzle essentially by "thinking outside the box."

Incommensurability

In Kuhn's theory, the paradigms involved on either side of a scientific revolution (i.e., before and after) are so completely different that communication and understanding between them is effectively impossible (think of the Aristotelian vs. the Newtonian or the Newtonian vs. the Einsteinian worldview)—a phenomenon known as incommensurability. According to Kuhn's incommensurability thesis, communication between paradigms does not work because the conceptual foundations differed, the meaning of key terms changed (*mass*, e.g., has quite different respective meanings within the Newtonian and Einsteinian paradigms), and the very questions that were regarded as important (or even sensible) differed from paradigm to paradigm. Kuhn famously remarked that it was as if the adherents of different paradigms lived in different worlds.

Over the course of his career, Kuhn's thought evolved on this issue. The idea of complete

incommensurability was expounded in the first edition of *Structure*. Later, Kuhn acknowledged that cross-paradigmatic communication was not impossible, just very difficult—after being introduced to the problems, concepts, and language of a different paradigm, scientists could begin to understand or interact with science outside of their own paradigmatic realm.

Criticisms of Kuhn's Structure

Kuhn's depiction of scientists working to explain phenomena from within the bounds of their own particular paradigms is at the core of the common critique that Kuhn's theory is too relativistic. Kuhn's philosophy of science erodes the vision of science converging on the truth; there is inquiry and advancement within a paradigm (with respect to that paradigm's agenda) but Kuhn specifically denied that there is any way to judge that one paradigm rather than another is "closer" to the truth. All scientific judgments are made from within a paradigm, and there is no external foothold from which one can pass judgment about which paradigm is best. Indeed, Kuhn was once labeled, along with Paul Feyerabend, the "worst enemy of science." This line of critique tends to view Kuhn as depicting science, overall, as irrational, arbitrary, and even possibly capricious.

Kuhn also can be regarded as a pioneer of the contemporary field of science studies that sees science as a social construction; in this approach, in explaining the changes that occur in science, the emphasis is on sociopolitical and cultural forces (sometimes called external forces, in contrast to factors such as data, derivations from theory, and the like that are internal to science). Some critics have taken umbrage with the stress Kuhn lays on communal standards and the like within a paradigm and his description of major scientific changes as being on a par with political revolutions. But, of course, Kuhn's use of this terminology was quite deliberate, as his comparison between scientific and political revolutions in Section IX of *Structure* makes clear.

Over the years, Kuhn worked to position himself as a philosopher of science, albeit one who stressed the importance of seeing science as a social endeavor; and this made him the object of attack by no less a figure than Karl Popper and his close associates; Kuhn had to face the charge (among others) that his philosophy introduced "mob rule" into science! Popper's focus on falsification led him to the view that the most important factor in the advancement of science was its openness to criticism, and Kuhn's concept of "normal science" that was aimed to further perfect a paradigm and not to falsify it, obviously, was anathema to him.

Kuhn and Educational Theory and Research

There are reasons to question just how well Kuhn's ideas about natural sciences apply to the social sciences in general and more specifically to educational research. Kuhn never claimed that the ideas in *Structure* went beyond the specific natural science arenas on which he had focused. In fact, according to Kuhn, many disciplines were "pre-paradigmatic" in the sense that there is neither any general consensus regarding the problems and issues that need to be studied nor any agreement about the best methods to carry out such inquiries, or about which theoretical concepts are appropriate. The question of methods brings us to the most widespread influence of Kuhn on educational research, namely, the ubiquitous adoption and use of the term *paradigm*.

For Kuhn, a paradigm is a framework, incommensurable with others, within which inquiry takes place. It seems that in much of the educational literature, a paradigm has come to mean something closer to a way of conducting research, or a set of related methods. Indeed, paradigms are most often associated with methodological outlooks, examples of which include (but are certainly not limited to) postpositivist, interpretivist, and constructivist research paradigms. To take it a step further, there are also many references to qualitative, quantitative, and mixed method paradigms. These research types represent general orientations or outlooks toward research, and, as such, there is a certain logic to calling them paradigms—although it must be stressed that they lack several of the characteristics that Kuhn argued were constitutive of paradigms. In sum, it is difficult to see exactly how Kuhn's use of the term is instructive in this context.

Perhaps the best use of Kuhn in education is to make the case that research in education is different from that in the natural sciences. Educational inquiry considered as a social science, and sometimes as a humanities-oriented enterprise, requires multiple approaches and the perspectives provided by a variety of disciplines from psychology, sociology, anthropology, and economics to history and the various branches of philosophy. Educational problems are multifaceted, nuanced, and evolving, and they involve empirical matters, value issues, and more, and it stands to reason that multiple approaches

and orientations are required to adequately address these. It is counterproductive, therefore, to view educational research as being pursued via a number of incommensurable paradigms. Education research needs to have this message reinforced as it is in a period of a reductive narrowing of what gets to count as viable research. Kuhn's description of the natural sciences can help educational philosophers and researchers to understand the nature of their enterprises, both in terms of similarities and in relief to Kuhn's version of the natural sciences.

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See also Edinburgh School of Sociology of Knowledge; Lakatos, Imre; Philosophical Issues in Educational Research: An Overview; Popper, Karl; Wittgenstein, Ludwig

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Laboratory School, University of Chicago

The University of Chicago Laboratory School is one of the most distinguished pioneer schools of the progressive education movement. This entry discusses the history of the school, its purpose, and its teaching philosophy and methods.

Founded in November 1894 by John Dewey and University President William R. Harper, the "Dewey School" opened its doors as University Primary School on January 13, 1896, in the Hyde Park area of Chicago, with 12 children present and one teacher in charge. The school, since October 1897 officially called University Elementary School and since October 1898, including a subprimary department, grew continuously, reaching its peak in 1901 with 140 children (predominantly from the wealthy and educated classes), 23 teachers, and 10 graduate students as teaching assistants.

In October 1901, Dewey appointed his wife Alice as the principal of the school. At the same time, the school was renamed "Laboratory School" due to the fact that the University of Chicago by now maintained a second "University Elementary School," having incorporated the Chicago Institute, a private normal school endowed by Anita M. Blaine and headed by Francis W. Parker. In May 1902, Dewey was elected Parker's successor as director of the University's School of Education (formerly Chicago Institute), and in October 1903, because of financial reasons and rapidly declining numbers of students, the two university elementary schools were consolidated and housed together in the newly erected Emmons Blaine Hall. Dewey's wife was the principal.

Because of her unprofessional conduct and poor management, less because of the issue of nepotism, Alice Dewey faced such powerful opposition, in particular from the former Parker school faculty (representing more than 70% of the teaching staff), that Harper had no other choice but to ask for her resignation as school principal. Dewey, anyway frustrated by administrative duties and the failure to shape the consolidated school according to his own ideas, resigned too and left Chicago in May 1904 for a professorship at Columbia University in New York City.

The School as the Laboratory of Education

From the outset, Dewey's school was not meant to be a mere practice, model, or demonstration school—a "normal school"—where prospective teachers acquired simple instructional techniques and exercised fixed lessons and specific drills. Instead, Dewey envisioned his school as a scientific "laboratory" staffed with college-trained teachers and devoted to research, experimentation, and educational innovation. Like the Herbartians, he expected his school—as part of the university's Department of Education—to perform two functions: first, to test and evaluate his theories about schooling and teaching and, second, to appraise the findings of these studies and work out subject matters and teaching methods for a curriculum that did

not focus on books and recitations but on children and activities. The ultimate aim Dewey strived for with his experimental school was laying the foundation for a reform that would revolutionize the educational system and, over time, transform the society into a great democratic community. Parents who feared their children might be misused as guinea pigs were reassured that the school did not experiment with children, but for children. Apart from serving as an educational laboratory, the school felt obliged to bestow a sound and liberal education on the students in its care.

Didactic and Psychological Premises

Dewey, a mild-mannered philosopher and a psychologist who had failed as a high school teacher because he could not persuade his adolescent students to behave and learn properly, did not give the Laboratory School teachers detailed instructions on what and how to teach; he rather provided them with general principles and suggestions for developing a vital and innovative curriculum.

Inspired by Herbartian precedents, Dewey devised a didactic scheme consisting of three components:

1. The *psychological*, that is, the natural impulses and interests of children that could be utilized for attaining their attention and moving them to accept as their own the topics, tasks, and projects proposed by the teacher
2. The *sociological*, that is, the social attitudes and practices the students should know about to succeed in life and play their part in a social and participatory democracy
3. The *logical*, that is, the organized contents and methods the students should study to understand the substance of subjects and the structure of science needed to survive in, and contribute to, the advancement of an industrial and progressive society

All three elements had to be thought of and striven for at the same time, or else, the teacher fell short of her educational mission. Yet of the three elements, the first had to have top priority while Dewey considered the children's impulses and interests as the only expedient starting points for effective teaching and joyful learning. Dewey identified four interests and activities every child naturally possessed: the interest (1) in communication and social interaction, (2) in making and building, (3) in exploring and investigating, and (4) in artistic expression and self-realization.

In addition to didactic considerations, Dewey made use of two psychological concepts. In accordance with his functional (constructivist) psychology and Friedrich Froebel's concept of self-activity and self-creation, he regarded curiosity, action, and experience as basic conditions of learning—all the more, as he was convinced that children were not passive recipients of facts and matters but active agents constructing their own reality and worldview in continuous interaction with their environment. Ideally, children acquired new knowledge and skills naturally by experiencing real-life situations firsthand. Yet mere action and activity were not enough.

Dewey, in accordance with his psychology of thinking and the Herbartian theory of apperception, introduced the notion of a "problem" as another important factor in curriculum construction. For if the continuous interaction with the environment was interrupted, and if the use of familiar precepts and routines was hindered, the individual would stop, analyze the problem, search for an alternative, develop a strategy of action, and try to overcome the hindrance by applying the plan that had emerged. Coping with problematic situations by thinking and doing, children would learn, retain, and retrieve significant information definitely better than using the traditional methods of memorizing and reciting.

With these premises in mind, Dewey concluded that it was the teacher's chief business to psychologize the curriculum and convert its contents into problems and situations that were appealing and challenging for the students and could be solved by them experimentally, authentically, and, to a large degree, independently of adult direction.

Learning Through Occupations

At the Laboratory School, the students were to grow emotionally, socially, and intellectually in ways that had continuity with both their previous experiences and their present lives. To provide the basis for active and cheerful learning, diverse measures were implemented: The teachers assumed the role of group leader and created an environment that resembled that of a loving family; the school facilitated self-activity and self-expression by allocating the necessary time and resources for joint and individual undertakings in kitchen, garden, laboratory, studio, and workshop; and the curriculum was reconstructed and centered on

so-called "occupations," that is, practical problems and activities that reproduced typical situations of social and communal life.

Instead of beginning with reading, writing, and arithmetic as is traditionally done, the lessons at the Laboratory School concentrated from the start on topics and issues pertaining to actual life and the meeting of basic human needs such as food, clothing, and shelter. In accord with the theory of culture epochs, the curriculum followed nature, while the children relived the stages it was believed that mankind had taken more than hundreds if not thousands of years as the race moved from being hunters and collectors to being farmers, craftsmen, and manufacturers. The idea was that the students acquired the three R's naturally, that is, when and so far as they needed them for tackling the situations and problems at hand. In cooking, for example, the students learned and practiced reading when they wished to decipher cookbooks, writing when they wanted to record their favorite recipes, and arithmetic when they had to count eggs, weigh flour, and measure milk. The occupations of cooking, weaving, sewing, and gardening, woodwork, and metalwork were lifelike, yet they had to be simplified, purified, and enriched so that the children were not overtaxed in their mental ability, damaged in their moral growth, or captivated in their narrow worldview. In fact, the activities were conceived so broadly that they integrated considerable subject matter in literature, art, history, geography, chemistry, and physics, and included excursions to parks, farms, and factories, to libraries and museums, with the objective of extending the horizon of the students beyond the familiar and the immediately necessary. Moreover, the teacher chose and suggested problems and situations of such nature that the students had to pass through the complete act of thinking and doing and to refer to knowledge and experiences of past and present generations (i.e., to utilize books, expertise, and scholarship) if they were to execute their plans and projects properly.

At the Laboratory School, the teacher had to alter her professional attitude and to take over new roles and functions. For her students, she was not a taskmaster and disciplinarian who relied on compulsion and punishment, on grades, examinations, and certificates, but a leader and guide in exciting and challenging activities. And with regard to her associates, the teacher was not an individual working and striving on her own but a person closely cooperating with her colleagues to coordinate the diverse elements of teaching into coherent learning units. In theory, the school was conceived as an "embryonic democracy" where teachers as well as students enjoyed intellectual freedom and the privilege of initiative and participation in decision making and curriculum planning. Especially due to the small classes consisting of 6 to 12 students, the atmosphere at the school was liberal, relaxed, and stress free, and phenomena such as indifference, indolence, and want of discipline that rendered traditional teaching so demanding and aggravating apparently disappeared or decreased to a negligible level.

Innovative but Not Exceptional

The Laboratory School underwent numerous modifications that responded to intricate or defective structures. Five modifications occurred during the first two years of its existence: the change from all-around teachers to special subject teachers, from age-mixed groups to age-homogeneous classes, from an amorphous unit to a departmental organization, from a cooperative administration to a centralized and supervising principalship, and, most of all, from a free, nearly unregimented setting and course of study to a socially integrative, problem-based environment and curriculum.

Stimulated by Ella Flagg Young, the school's supervisor, the original inclination to scholarly dilettantism, institutional disorder, and, in particular, educational sentimentalism was overcome in 1898 and visibly surmounted with the school's first and only official "Outline of Course of Study" of June 1899. Since then the students had few and limited opportunities to influence curriculum and instruction. They were, in turn, appointed group leaders and took, in absence of the teacher, responsibility for law and order, but seldom were they engaged in projects, such as furnishing a model colonial room or building the famous clubhouse, that required genuine team work and significant collaboration in planning, deciding, and executing; and rarely were they allowed to choose between alternative topics and activities or decide autonomously what they wanted to do.

Problem-based learning as devised by Dewey had its own drawbacks. Closely bound up with experimental and creative thinking and coupled with the expectation that the students discover and reinvent the responses and solutions that people had found for the challenges and difficulties they faced in past and present times, the problem method often overtaxed

the patience, the comprehension, and the capabilities of the students. In consequence, the teachers fell back on techniques such as telling, explaining, and demonstrating to transmit the knowledge, skills, and attitudes that they wanted to convey. Therefore—and contrary to Dewey's specifications—the experiments in science did not serve to solve authentic problems or rediscover scientific laws but functioned as illustrations of facts and principles the students should observe and learn.

Even the concept of occupations, the backbone of Dewey's curricular reform, did not fulfill all the high expectations associated with it. In fact, the notion of instrumental and interdisciplinary learning in real-life situations proved only a partial success. For some parents and visitors, Dewey had turned the world upside down; their scathing criticism—that in the morning at the Laboratory School, the students learned cooking, knitting, and weaving, while in the afternoon at home, they learned reading, writing, and arithmetic—was definitely exaggerated but not totally off target. In their weekly reports, the Laboratory School teachers observed time and again that it was wearisome and laborious for students and teachers alike to catch up on reading, writing, and arithmetic when the students of advanced age were, contrary to previous years, negatively disposed toward systematic drill and practice. In addition, the concept of occupations and integrated studies inevitably became of lesser importance the higher the grades, and the more the subject matter became abstract and specialized and relatively remote from the students' actual life.

Undoubtedly, the Laboratory School ranked among the most creative progressive schools of its time. Like Parker's Cook County Normal School (founded in 1867), Nicholas M. Butler's Horace Mann School (founded in 1887), and James E. Russell's Speyer School (founded in 1902), the Dewey School contributed considerably to the liberalization of education, the humanization of schooling, and the vitalization of teaching. But unlike Parker, Butler, and Russell, Dewey overestimated the value of instrumental and problem-based learning and underestimated the grammar of schooling and the benefits the students could reap from direct and systematic instruction. After chaotic beginnings and fruitless experiments, the teachers returned to more conventional patterns and procedures so that ultimately the Laboratory School differed—in practice, not in theory—surprisingly little from other innovative schools.

The Laboratory School After Dewey

When Alice and Dewey left Chicago for New York in 1904, Harper appointed Wilbur Jackman, formerly Parker's main assistant, principal of the consolidated University Elementary School, consequently putting an end to the severe crisis the Deweys had caused by poor management and the hostile takeover of the rival Parker school. United with the Chicago Manual Training School and the South Side Academy, the Laboratory Schools, as they were called once again, lived through many changes and various highs and lows. Administered by eminent educators like Charles H. Judd, Henry C. Morrison, Ralph W. Tyler, and Philip W. Jackson, they sometimes set the direction or thwarted the trend the nation was to take in curriculum and instruction; but frequently, they have oscillated (as has the rest of the country) between programs and courses that were more academic or more child centered. Today, the University of Chicago Laboratory Schools are counted among the best preparatory schools in the United States.

Michael Knoll

See also Dewey, John; Problem-Based Learning; Productive Labor and Occupations: From Dewey to Makarenko; Progressive Education and Its Critics; Project Method

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Lakatos, Imre

As a participant in the influential philosophy-of-science debates of the 1960s and 1970s, mostly surrounding Thomas Kuhn's *The Structure of Scientific Revolutions*, Imre Lakatos (1922–1974) made pedagogy and critical method the dual focus of his historicist philosophy.

At Cambridge as a refuge from the 1956 Hungarian Revolution, Lakatos wrote the English language PhD thesis edited and published posthumously as *Proofs and Refutations: The Logic of Mathematical Discovery*. Influenced by his countryman, the mathematician and pedagogue George Pólya, Lakatos made mathematical heuristic—meaning informal methods of mathematical discovery, innovation, and proof—a central philosophical idea.

The book takes the form of a pedagogical dialogue between a teacher and 18 characters, named Alpha, Beta, and so forth, who debate and improve a theorem and proof of polyhedra by the 18th-century Swiss mathematician Leonhard Euler. The theorem states that for any polyhedron, such as a cube, the number of vertices minus the number of edges plus the number of faces equals two: $V - E + F = 2$ (try it for a cube: $8 - 12 + 6 = 2$). Pólya in his many books on problem solving, such as *How to Solve It*, emphasized heuristics for solving certain kinds of equations, integrals, probability calculations, and others. The emphasis was on conceptual understanding, and trial and error tested on special cases or variations, and reflected a disconnect with the mathematical logic made famous through Gottlob Frege, Bertrand Russell, Kurt Gödel, and many afterward. Logic was useful as another branch of mathematics, but how good was it at characterizing the practices that mathematicians used to create new ideas, methods, theorems, and proofs, including those of modern mathematical logic itself?

Lakatos made heuristic into his philosophical workhorse, extending Pólya's pedagogical perspective to the development of mathematics during the 19th century and modern conceptions of proof, theorems, and logic itself. The approach was thoroughly historical—the dialogue about Euler's theorem is not quite fiction. The characters represent historical innovations of 19th-century mathematics and how the modern idea of proof changed and improved throughout the century. Through that history, Lakatos explains that these were heuristic innovations in how to conceptualize what a theorem and its proof is about and how they work together to constitute logical rigor. For Euler's theorem, this means dealing with possible counterexamples, such as a cylinder (no vertices?) or a picture frame (hidden edges on those faces?). Here is where the fallible, "conjectures and refutations" philosophy of science of Lakatos's mentor in England, Karl Popper, is brought into mathematics. Theorems, in their periods of growth and development, can be informally "refuted," much like a scientific hypothesis. For Lakatos, 19th-century mathematicians showed how that idea was internalized into methods of proof, from identifying relevant domains (e.g., polyhedra), to finessing a theorem, via what Lakatos called the *method of proofs and refutations*, so that potential counterexamples (a cylinder or a picture frame) were either carefully excluded from a theorem's scope or reinterpreted to neutralize its contradictory status. These are the heuristic methods Lakatos claimed drove creative mathematics and were explored in detail in his historical study. That history is not just colorful window dressing. Lakatos argues, through the dialogue, that mathematical theorems embody the history that gave rise to them, wedding pedagogy and history inexorably. That applies even to modern mathematical logic as yet another informal mathematical subject, whose topic just happens to be mathematics itself.

Proofs and Refutations is a classic of 20th-century philosophy, its specialized subject matter notwithstanding. Lakatos elevated heuristic to its deserved philosophical status decades before Daniel Kahneman and Amos Tversky would use psychological experiments to critique cognitive assumptions of economic models, in large part by showing the role of heuristics in reasoning about uncertainty. The engaging dialogue format of *Proofs and Refutations*, combined with its mathematical and historical rigor, helped popularize the book's pedagogical messages. That includes a critique of what Lakatos calls the "Euclidean style" of many textbooks, meaning the overused definition–theorem–proof presentation of mathematical knowledge. That style correctly delivers a logical basis, but often disguises a proof's "logic of discovery," or the informal interpretation of how a proof "works," known by experts but a mystery to students. The antidote to the Euclidean style is more history of the problems motivating solutions,

thus reversing the pedagogical priority given to the "logic of justification."

The Methodology of Scientific Research Programs

Following his graduate work, as a professor at the London School of Economics, Lakatos turned to the philosophy of science. Education and history would again play star roles, but now in a more critical spirit. Lakatos's contribution here was his "methodology of scientific research programs" organized as a kind of historiographic toolkit. The tools make up a flexible framework for interpreting historical progress in any science, and after Lakatos's death, the methods were applied to historical episodes in physics, chemistry, economics, geology, and even developmental psychology.

Lakatos argued that too much focus on isolated theories in science was a historical and methodological mistake. The relevant "unit" of appraisal and progress (or decline) was rather a competing *series* of theories, unified by some central tenets that are exploited and defended through an array of evolving models with more concrete verifications or refutations of varying quality. There can be creative reinterpretations of evidence, changing observational theories, with progress occurring in a "sea of anomalies," even formal contradictions, as long as innovations allowed new, successful predictions to be made over time, and always relative to the competition. Given that, there will be ad hoc defenses, reversals of fortune, and ultimately winners and losers. What matters in modern science, for Lakatos, is less "verisimilitude" with some unknown underlying reality but mastery of a constantly expanding horizon of facts.

Lakatos's historiographic views were quite radical, not to be matched until continental philosophers of history from Michel Foucault onward. Lakatos recognized that the sea change in philosophy was to bring history in as the yardstick against which philippics of science are to be judged, a view shared by Kuhn and Paul Feyerabend, the third member of the historicist vanguard. Lakatos frankly put it that there was no methodology outside of history, that methodology of science is but a "rational reconstruction" of science's past. Philosophy of science and its history were inseparable and were without any absolute criterion of "verisimilitude" or "scientific reality." Science learns through its own experience, including how to be scientifically rigorous itself. Those standards then become the theory by which a scientific past is understood, and so too the present.

That critical learning process is the motivation behind the methodology of scientific research programs. Notably, research programs have a "historical character," they are series of theories joined together in time by shared program goals and assumptions. Programs were in competition, such as the wave and particle theories of light, or classical and relativistic physics, so Lakatos provides methods for judging both (relative) progress and degeneration. The pedagogy here is meant to be thoroughly exoteric, means by which the necessary expertise of scientific specialization is made transparent through research program spectacles. The slow accumulation of confirmations associated with climate change over the past decade is a sad (because risky) but salient example. There are not really any "crucial experiments," Lakatos argues, even when they are proclaimed as such. One of Lakatos's best historical analyses was to show that the Michelson-Morley experiments on the speed of light had almost no role in early relativity theory; it was learned only in "hindsight," as Lakatos puts it, that the experiments were part of classical physics' concluding chapter.

Lakatos's historiographic methods for interpreting change were also for him critical for assessing the state of play across competing programs. Feyerabend appreciated the usefulness of Lakatos's toolkit for understanding all kinds of "normal science," Kuhn's notion of the more mundane working out of theory and models between more revolutionary "paradigm shifts." But there's always a chance for a weak program to recover (the atomic theory around 1905) or a strong one to falter (the one-way "dogma" that DNA [deoxyribonucleic acid] creates RNA [ribonucleic acid] creates protein). Scientific change, as against Kuhn's revolutionary changes, is often a slow and irregular critical battle. Hence, criticism from philosophy, Feyerabend saw, is limited until the history is complete and philosophers can reflect on that change. Nonetheless, Lakatos's approach, illustrated again by his carefully staged but telling historical reconstructions, form a usefully exoteric and critical pedagogy, often making arcane science and its closed debates transparent to outsiders. As put by Ian Hacking, the role of heuristic and history in *Proofs and Refutations* was "forward looking" and creative. In the philosophy of science, Lakatos's methods are critical, explicitly historiographic, and so "backward looking." Common to both is a vision of philosophy suffused by a remarkable

pedagogical spirit, consistent with Lakatos's influential role as a philosopher and educator promulgating ideas. In both approaches, philosophy is a descriptive means for historical reconstruction, hence also for the teaching of mathematics or science through their past. There is also a normative vocabulary for explaining historical progress without a supreme goal of matching reality or truth in itself.

Philosophical Pedagogy in the Work of Lakatos

Lakatos's convolution of history and pedagogy, whether taken as creative or critical, is wholly original in English language philosophy. It is also wholly the product of Lakatos's innovative use of the Hegelian and Marxist philosophy he learned in Hungary, particularly from his mentor and role model Georg Lukács. In a nutshell, Lakatos equals Lukács in Hungary plus Popper in England. The common denominator is learning, literally *philosophical* pedagogy, which for Lukács is epitomized by the classical idea of *Bildung*. In German philosophy, especially in Hegel, *Bildung* connotes both individual and cultural learning through error and hence is *the* basis for modern conceptions of self and society that are ultimately secular and reinventing. *Bildung* is necessarily a historical, because constructive, concept, being equally useful to writers and social scientists from Goethe, author of the first *Bildungsroman*, to Karl Marx, who conceived the *Bildung* of modern capital society. What Lukács saw, and likely taught Lakatos, was that before Marx, Hegel was the historicist philosopher par excellence, but with history as *Bildungsprozess*, not metaphysical demiurge. Hegel's *Phenomenology of Spirit* has the explicit pedagogical goal of organizing dozens of past philosophical ideas into its own stylized history of the philosophical present. *Proofs and Refutations* is a mini *Phenomenology*, but targeted to 19th-century mathematics. The caricatured "gestalts" of mathematical method presented in Lakatos's dialogue become our history of the mathematical present, just as Hegel rewrote history to serve his philosophical pedagogy. The methodology of scientific research programs is a critical philosophy of science whose modus operandi is the reconstruction of the history of science using contemporary critical categories of method, a way of writing histories of the scientific, rather than economic, present. Like Marx, Lakatos reinvented Hegel for his own purposes, and as shown by Lukács, knowing how to artfully dissemble that influence. The latter is yet another means by which Lakatos educates his readers in the power of historical thought and the transmission of ideas.

John Kadvany

See also *Bildung*; Hegel, Georg Wilhelm Friedrich; Kuhn, Thomas S.; Marx, Karl; Popper, Karl

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Language Acquisition, Theories of

Every normal child acquires at least one language in the first few years of life. Before children start grammar school, they have effectively become adults in many seemingly complex linguistic abilities. These abilities include the capacity to produce and understand a boundless number of novel sentences and to judge whether what a sentence is stating is true or false. There are two alternative accounts of the course of children's language development. These different perspectives can be traced back to the *nature versus nurture* debate about how knowledge is acquired in any cognitive domain. The nature perspective dates back to Plato's dialogue "The Meno." In this dialogue, the protagonist, Socrates, demonstrates to Meno, an aristocrat in ancient Greece, that a young slave knows more about geometry than he could have learned from experience.

In the case of language, advocates of *linguistic nativism* contend that there is a similar gap between children's experience and the knowledge that they

rapidly acquire. Linguists working in nativism's generative tradition (whose most famous proponent is Noam Chomsky) have spent more than 50 years attempting to construct a theoretical account of what children know that they could not have learned from experience. This theory is called the *theory of universal grammar.* Its aims are to describe not only the differences among languages but also the properties that are shared by all human languages. In many instances, according to nativists, it seems highly unlikely that children encounter sufficient, or even any, relevant input about the existence of core properties, so the fact that children acquiring even typologically distant languages manifest knowledge is offered as one of the main arguments in favor of a nativist approach to language development.

In contrast to the nature approach, many researchers adopt an alternative, *nurture* approach to language development. From this perspective, language development is on par with the acquisition of knowledge in other cognitive domains, such as social skills, learning to count, learning to read, and so forth. So the nurture approach invokes *domain-general* learning mechanisms to explain how children acquire language. These domain-general learning mechanisms consist of general learning processes that are not specially tailored to acquire any particular kinds of facts about the world. Like knowledge in other cognitive domains, the nurture approach proposes that knowledge of language is accrued in a piecemeal fashion based on statistical regularities about language that can be found in the input to children. In addition to highlighting the availability of relevant cues in the input to children, advocates of the nurture approach point to children's considerable nonlinguistic capacities to form and test generalizations about language.

This entry discusses these two theoretical perspectives on language acquisition, beginning with the nurture approach and noting in conclusion why both rival approaches continue to endure.

The Experience-Dependent (Nurture) Approach

According to the experience-based approach, it is not necessary to suppose that children are innately endowed with specific contingent facts about natural languages. If the data available to children are rich enough for them to determine the structures of human languages, given the right nonlinguistic capacities to cull data and from appropriate generalizations, then appeals to innately specified principles that are specific to language are at best a useful crutch for theorists—and at worst a source of erroneous claims about the alleged "gap" between children's conclusions about the languages spoken to them and the evidence that is available to them.

The experience-based approach contends that children's generalizations about language are formed using general-purpose learning mechanisms. These mechanisms include distributional analysis, analogy, cut-and-paste operations, and so on. The products of these learning algorithms are "shallow" records that children keep of their linguistic experience. These records are internalized by children in the form of construction types (also called templates or schemas) that encode the linguistic patterns displayed by the input. Construction types are sequences of category labels such as *NP*, *V*, *neg*, and so on, drawn from a simple typology and learned solely from experience. When children's generalizations extend beyond their experience, the supposition is that this is just one instance of a completely general induction problem that arises for all learning that involves projection beyond one's experience.

According to the experience-dependent (also called usage-based) account, all human languages contain a wide range of semi-idiosyncratic constructions that cannot be accounted for by universal, or innate, linguistic principles. On any account of language development, these "peripheral" constructions must be learned. According to the experience-dependent account, the same mechanisms that children use to learn peripheral constructions are also used to learn the core phenomena of human languages. The reasoning here is that the core phenomena of human languages are even more regular and occur more frequently than the idiosyncratic patterns. If so, then the core phenomena should be even easier to learn, with more frequently attested constructions being mastered earlier than less frequently attested constructions. Once children have mastered the core construction types, these are composed into more and more complex patterns, until the language of the child approximates that of adults in the same linguistic community. On this approach, then, child language is expected to match that of adults, although at the early stages of language development, child language is expected simply to be less articulated than the corresponding adult language. As they advance in age, children also advance in their approximation to the adult linguistic system.

On the experience-dependent account, linguistic generalizations are based on information structure, including topic (matters of current interest), focus domain (what is newly asserted), and background elements (e.g., presuppositions). The communicative function of a construction type is essential in accounting for its distribution in a language, on this approach. For example, *subjects* are the way of marking the topic of a clause. Once communicative function is taken into account, an explanation of cross-linguistic generalizations follows. Such generalizations are recurrent patterns of human languages. These are thought to be the by-product of general cognitive constraints, such as analogical processes, processing factors, and discourse-pragmatic factors. Nevertheless, the experience-dependent account anticipates substantial variability among the constructions that appear in different human languages.

As noted earlier, the experience-dependent account attempts to avoid the conclusions of nativists about the innate specification of universal linguistic principles. On the experience-dependent account, children only (re)produce linguistic expressions that they have experienced in the input, at least at the earliest stages of language development. This proposal is called *conservative learning*. If true, conservative learning would render innate linguistic principles unnecessary for language learning. Language development would consist, instead, in children developing constructions based on exposure to strings of words that learners encounter in their experience. One prominent advocate of the experience-based approach is Michael Tomasello (2000), who defends the conservative learning model of early language acquisition, for verbs. Essentially, young children's productions of verb forms are limited to forms that they have previously encountered in the input, at least for children younger than three. After age three, children start to form more abstract adultlike linguistic categories. When children make "errors," these are purged from children's grammars by (direct or indirect) *negative evidence* (lack of understanding, corrective feedback), *entrenchment* (being drowned out by the frequency of a different expression), and *preemption* (e.g., adult recasts using an alternative expression). These usage-based mechanisms assume the role played by innate constraints on the nativist account.

Recently, advocates of the experience-based approach have been exploring the possibility that linguistic facts can be learned without the kinds of abstract or implicit principles that have been proposed in the "nature" approach to language development. One relevant discovery is that children are able to effectively learn certain linguistic properties on the basis of statistical regularities in the input. For example, Jenny Saffran, Aslin, and Newport (1996) showed that eight-month-old children could exploit statistical learning to extract information about transitional probabilities from the input (i.e., how likely one item is to follow another). Infants inferred the existence of word boundaries between three-syllable pseudowords (nonsensical combinations). Those three-syllable sequences that crossed a word boundary were not treated by the child subjects as a "word" during the posttest phase of the study, because there was a lower probability for such sequences to be repeated if they crossed a word boundary than if they were part of a "word." A second development concerns the nature of the input available to children. It has recently been argued that the input contains relevant features in sufficient abundance to support statistically based acquisition of several seemingly complex facts about language. The conclusion reached by proponents of the experience-based account is that children can extract the relevant generalizations from what adults actually say, in the circumstances in which they say them.

The Universal Grammar (Nature) Approach

The nativist solution to Plato's problem in "The Meno" supposes that children are biologically fitted, as part of the human genome, with a *universal grammar*. The universal grammar account views language acquisition as, at least in part, the by-product of a domain-specific computational mechanism. Universal grammar contains the core *principles* of language: principles that establish boundary conditions for all human languages. In addition, universal grammar spells out particular ways in which human languages can vary. These points of variation are called *parameters*. Taken together, the principles and parameters of universal grammar establish what counts as a possible human language. The universal principles enable children to rapidly and effortlessly acquire any human language without formal instruction and despite the considerable latitude in the experiences of different children.

There are several points about the principles of universal grammar (UG) that are often not fully appreciated. One point is that UG is not a theory of the grammar of particular languages. Here is an instructive quote from Chomsky (1965):

> The grammar of a particular language . . . is to be supplemented by a universal grammar that . . . expresses the deep-seated regularities which, being universal, are omitted from the grammar itself. *Therefore it is quite proper for a grammar to discuss only exceptions and irregularities in detail* [italics added]. It is only when supplemented by a universal grammar that the grammar of a language provides a full account of the speaker-hearer's competence. (p. 6)

As Chomsky makes clear, many linguists study the grammars of particular languages and concentrate on what makes each particular language special; they do not concentrate on what it has in common with other languages. However, the theory of UG does not attempt to account for "exceptions and irregularities" but rather those aspects that are shared by human languages. Little is gained in arguing against UG by pointing out that individual languages contain lots of irregularities and exceptions. Any challenge to UG requires more than this.

A second point is that child language is not expected to be an approximation of the language spoken by adults in the linguistic community. This is where parameters enter the picture. As noted earlier, parameters are innately specified points of variation across languages. It has been discovered that children acquiring a language that subscribes to one value of a parameter themselves initially subscribe to another value, one that is adopted by a class of human languages, but not by adult speakers of the local language. In a sense, children are speaking a fragment of a "foreign" language for a while. This is quite unexpected on the experience-based approach and is taken by advocates of the nativism to be among the most compelling evidence for the theory of UG.

A third point is that the theory of UG is an empirical proposal about the initial state of language learners, not a proposal about the final state of adult speakers of any human language. The principles of UG determine the kinds of analyses that children can adopt. Where advocates of the experience-based approach speak of core phenomena being more regular and, hence, easier to learn, advocates of the nativist approach speak of core linguistic properties. The nativist use of *core* is quite different. A core property explains what Chomsky refers to as "deep-seated regularities." The regularities Chomsky is referring to have nothing in common with the kinds of statistical regularities that are the bread and butter of the experience-based approach.

To cite a famous example, Chomsky proposed, almost 40 years ago, that one of the core principles of UG is that all linguistic rules are structure dependent. Because UG is a theory of the initial state of children's knowledge, the claim is that children can only hypothesize structure-dependent operations and are prevented from hypothesizing structure-independent operations by their basic nature.

To illustrate, Chomsky frequently discusses how Yes/No questions are related to declarative statements. The first observation to make is that Yes/No questions and declarative statements are somehow related: For any declarative statement, there is a corresponding Yes/No question, as illustrated in (1) and (2) below. In every case, the formation of a Yes/No question is presumably based on properties that are associated with the corresponding declarative. But exactly what properties serve as the basis for forming Yes/No questions? This is the question Chomsky invites us to entertain: How are linguistic examples like (1) and (2) related to each other? One cannot answer this question by proposing a series of templates or schemas for forming Yes/No questions, such as AUX + NP + ADJ (e.g., *Are* + *Australians* + *friendly?*), DO + NP +$\text{Verb}_{\text{-tns}}$ + NP (*Do Australians eat Kiwi fruit?*), and so on. Although this strategy will result in lots of well-formed Yes/No questions, it would miss the fact that, for every one of them, there is a corresponding declarative statement.

1. Declarative statement: *Australians are friendly.*
2. Yes/No Question: Are Australians friendly?

Chomsky invites us to consider two kinds of rules, both designed to establish the relationship between declarative statements such as (1) and Yes/No questions like (2). The rules are (3) and (4).

3. Rule A: Move the first occurrence of *are* to the front. (Structure Independent)
4. Rule B: Move the *are* from the main clause to the front. (Structure Dependent)

Both Rules A and B can account for the relationship between simple declarative statements and Yes/No questions such as the examples (1) and (2). Assuming that simple examples make up the preponderance of the input to young children, it is at least conceivable that some children would hypothesize Rule A, since Rule A is far simpler on any standard measure of complexity. Rule A is a "beads-on-a-string" operation that treats sentences

as sequences of words, without attributing abstract structure to them; in short, Rule A is structure independent. Rule B, on the other hand, differentiates the main clause of a sentence from any other clause, so it is based on abstract structure that is imposed onto the surface sequences of those words that are combined to form sentences; Rule B is structure dependent.

Unless children have a predisposition toward Rule B, they would not be expected to initially favor this rule over one that does not turn on the child's ability to recognize the structural distinction between main clauses, on the one hand, and embedded ones such as relative clauses, on the other. Rule A is empirically inadequate, however. To see why, we need to consider more complicated sentences, such as the examples in (5) to (7).

Look first at the declarative statement (5). Here, the subject phrase (*Australians who are sunburned*) contains a relative clause (. . . *who are sunburned*) that contains the verbal element *are*. Applying the structure-independent Rule A, this verbal element would be moved to the front, yielding the improper Yes/No question (6), rather than the proper Yes/No question (7). The structure-dependent operation, Rule B, would bypass the first occurrence of *are*, because it is inside a relative clause and not in a main clause. Rule B instructs us to move the verbal element *are* in the predicate of the main clause (*are friendly*), so applying Rule B yields the proper Yes/No question (7).

5. Australians who are sunburned are friendly.
6. Are Australians who sunburned are friendly?
7. Are Australians who are sunburned friendly?

If Chomsky's proposal is correct, and UG restricts children's initial hypotheses to structure-dependent ones, children should never produce statements like (6). This has been empirically verified in an experiment (Crain & Nakayama, 1987), in which Yes/No questions were evoked from 30 three- to five-year-old children, to see if they ever made mistakes similar to (6) above. Although children were found to make certain kinds of errors, they never produced questions that were consistent with structure-independent Rule A. Chomsky's argument is not simply a prediction about the absence of one kind of "error" that might otherwise be expected if children were free to try out structure-independent hypotheses. The same linguistic principle that restricts the movement of verbal elements in English, also prevents any other kind of phrase from being fronted—adjective phrases, *wh*-phrases (those beginning with an interrogative word, e.g., *who[m]*, *what*, *which*), and so on. Metaphorically, a relative clause is an island from which nothing can escape.

We have room for only a single example of the kind of "deep-seated regularities" that the theory of UG is designed to explain. But even focusing on this single example, a list of basic tenets of the theory can be drawn. Essentially, UG principles (a) explain how different constructions are related, (b) state what will *not* occur in child (and adult) language, (c) apply to a variety of linguistic phenomena, and (d) apply in typologically distinct languages. These basic tenets of the theory are the source of strong predictions about the course of language development.

Comparing the Competing Approaches

The debate continues between advocates of nativism and advocates of an experience-based approach to language acquisition. Because these different approaches stand in stark contrast to each other, it would seem that it should be easy to adjudicate between them. However, this has not proven to be the case—this debate continues largely because advocates of nativism and advocates of an experience-based approach have focused on different linguistic phenomena and on children at different developmental stages. The experience-based approach tends to investigate the acquisition of specific constructions, in individual languages, by very young children (toddlers). By contrast, studies based on the nativist approach tend to use slightly older (preschoolers) children, they investigate children's knowledge of principles that govern a variety of phenomena, and they investigate children acquiring historically unrelated languages. In view of these different research strategies, it is not surprising that both approaches continue to thrive and that the nature versus nurture debate endures.

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See also Behaviorism; Chomsky, Noam; Evolution and Educational Psychology

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Learning, Theories of

Theories of learning explain *learning*, defined as an enduring change either in behavior or in the capacity to behave in a given fashion, which results from practice or other forms of experience. Although contemporary theories of learning are heavily based in psychology, they also reflect philosophical tenets. This entry discusses the functions of theories of learning, their philosophical bases and psychological beginnings, issues addressed by contemporary theories, and two broad classes of learning theories: behavior and cognitive.

Functions of Theories

Theories of learning serve many functions. Theories help us make sense of the world because they provide coherent frameworks for interpreting knowledge gained from environmental observations and research findings. Without theories, observations and findings might be disorganized collections of information, because there would be no overarching framework with which to link them.

Theories also provide a means for generating new research through the making of hypotheses that can be empirically tested (e.g., if we do *x* then *y* should occur). By spawning new research, theories help generate data that either do or do not support them. Theories never are proven; rather, they are or are not supported. Consistent research evidence that fails to support a theory may necessitate adaptation or revision of the theory.

Third, theories help facilitate the application of research results to practice. Researchers test theoretical predictions in given contexts. A theoretical prediction supported by research suggests that educators should implement this practice to improve students' learning—but this must be done cautiously. If the researcher's context were reading at the fifth grade, we might ask how a high school biology teacher could use this research result. The high school teacher could interpret the research findings in the context of theory and adapt the theoretical ideas for use in high school.

Philosophical and Psychological Beginnings

The roots of theories of learning extend far into the past, and it is evident that from the beginning they were strongly influenced by philosophical considerations. Plato, in the rationalist tradition, believed that the world we experience by means of our senses is not real (because it is subject to change and decay); knowledge, and genuine learning, pertained to a metaphysical realm that our souls had access to before our birth and which, in life, we could gain access to again only by use of the faculty of reason that needed a long period of training to be effective. (This is illustrated in his famous allegory of prisoners in a cave who mistake shadows on the wall—which is all that they can see—for the underlying realities. Helping the prisoners to learn involves turning their vision away from the shadows so that they can perceive reality.)

Plato's student Aristotle, an empiricist, believed that the external world was the basis for sense impressions, which then were interpreted by the mind. In reasoning about sensory data, the mind associated objects or ideas with others that were similar to or different from the new ones. The better that objects were associated with one another, the more likely that recall of one would trigger recall of the other. This notion of associationism is inherent in subsequent theories of learning.

Early psychological research was oriented toward exploring mental associations. Wilhelm Wundt established a psychological laboratory in Germany in 1879. Wundt and others explored phenomena such as sensation, perception, verbal associations, and emotions. Hermann Ebbinghaus, another early researcher, conducted experiments on associations in memory. The research programs by Wundt and Ebbinghaus were important but of limited influence because they were confined to specific locations. By the turn of the 20th century, however, more individuals conducted psychological research that reflected two schools of thought: structuralism and functionalism.

Edward Titchener, one of Wundt's students, believed that the mind was composed of associations

and that understanding the mind required studying single ideas. Titchener's psychology (*structuralism*) commonly employed introspection as a method. Participants verbally reported their experiences after being exposed to objects or events. Although introspection was intended to measure consciousness, the method often was unreliable because it required extensive training of experimenters to interpret, and participants often reported meanings and interpretations rather than immediate perceptions.

In contrast, *functionalism* held that mental processes and behaviors helped individuals adapt to environments. William James believed that consciousness was a continuous process to be viewed holistically rather than a collection of discrete pieces of information. Functionalists were influenced by Charles Darwin and studied how mental processes helped people thrive in their environments. Functionalists were interested in how mental processes (e.g., thoughts and feelings) operated, what they accomplished, and how they were influenced by the environment. They rejected introspection because it broke consciousness into discrete elements.

Contemporary Learning Theories

Current theories of learning have been influenced by the philosophical positions of rationalism and empiricism, by early psychology research on mental processes, and by the psychological schools of thought of structuralism and functionalism. Although the overlap is not perfect, behavior theories reflect many elements of empiricism and structuralism, whereas cognitive theories emphasize ideas of rationalism and functionalism.

John Watson, an early 20th-century behavior theorist, believed that for psychology to become a science it had to use the methodology of the physical sciences—this meant that phenomena studied had to be observable and measurable and that introspection would not be a source of data. Making behavior the focus of psychology satisfied these criteria. Behavior theorists do not (necessarily) deny that mental events exist but rather believe that such events are not necessary to explain learning. In contrast, cognitive theories are concerned about the mental events that behavior theorists eschew. Cognitive theorists do not believe that environmental events automatically affect learning. Rather, learners interpret such events and construct knowledge and beliefs.

Regardless of theoretical perspective, a viable theory of learning should address several critical issues. One is how learning occurs. A theory of learning should explain how an individual moves from an unlearned state to a learned state and how experiences affect learning.

A second issue concerns the role of memory. Learning implies a relatively permanent (nontransitory) change in behavior. Without memory, every behavior would have to be learned anew each time it was necessary. A theory of learning should explain how memory operates during learning.

Third, what is the theory's stance on the role of motivation in learning? Research shows that motivation can affect learning. How does the theory define motivation and what is the process whereby motivation affects learning?

Fourth, how does transfer occur? Transfer allows people to apply knowledge and skills in new ways, with new content, or in new situations. Without transfer, all learning would be situationally specific. A theory of learning should be able to explain how this critical process occurs.

Fifth, a theory of learning should be able to explain how self-regulated learning occurs. Self-regulated learning is learning that is self-initiated and self-managed. What cognitive processes and behaviors are important for self-regulated learning? What initiates and sustains it? Much human learning occurs self-regulatively because it happens outside of formal instructional settings.

Finally, a theory of learning should explain the implications of the theory for educational practice. How should teachers structure the content and learner activities to promote learning? A theory of learning must allow people to translate its principles into practice.

Although behavior and cognitive theories differ in many ways, there are areas of overlap. Behavior theorists do not deny the existence of mental events. Rather, they believe that such events are not necessary to explain learning. Cognitive theorists do not negate the importance of behavior, because behavior indicates whether learning has occurred. Both types of theories stress learning by association. And new developments in other fields—such as cognitive neuroscience—have implications for theories' explanations of learning.

Behavior Theories

Prominent behavior theories are connectionism theory, classical conditioning theory, and operant conditioning theory. These theories construe learning

as a change in the rate, frequency, or occurrence of behavior and explain learning as a function of environmental events.

Connectionism was developed by Edward Thorndike. The most fundamental type of learning involves the forming of associations, or connections, between sensory experiences and neural responses that manifest themselves behaviorally. Through repeated practice, connections become strengthened.

Thorndike formulated two important principles of learning. One (law of effect) says that responses that result in satisfying consequences are learned, whereas those that lead to unsatisfying consequences are not learned. The second (law of exercise) held that when a response is made to a stimulus, their connection is strengthened; conversely, when a response is not made to a stimulus, their connection is weakened. As a professor of education, Thorndike wrote extensively about education, and his principles were widely applied by teachers in the early part of the 20th century to help promote learning.

Classical conditioning is a multistep procedure developed by Ivan Pavlov that initially involves presenting an unconditioned stimulus that elicits an unconditioned response. In a typical demonstration, a hungry dog might be presented with food (unconditioned stimulus), which causes the dog to salivate (unconditioned response). To establish conditioning, a neutral (conditioned) stimulus (e.g., ring of a bell) might be introduced just prior to presentation of the unconditioned stimulus. After several pairings of the conditioned and unconditioned stimuli, the conditioned stimulus might be presented alone. If the dog salivates, then classical conditioning has occurred. A new association between the conditioned stimulus and conditioned response (salivation) has been established.

Classical conditioning can occur with physiological or affective (emotional) responses. Some human learning may be classically conditioned. People can develop fears and phobias to stimuli that initially are neutral (e.g., taking tests, interacting with difficult people). But the scope of classical conditioning to explain human learning is limited because most human learning involves conscious control of voluntary behavior rather than reflexive actions.

The theory of *operant conditioning*, developed by B. F. Skinner, distinguishes two types of behavior: respondent and operant. Respondent behavior is reflexive and nonvoluntary, as described by classical conditioning theory. Most human behavior is operant, or voluntary, behavior that is emitted in the presence of discriminative stimuli. Whether such behavior is performed in the future depends on its consequences, or the reinforcing stimuli that follow it. Behaviors that are reinforced tend to be repeated; those that are punished or followed by no consequences are less likely to be repeated. Complex actions can be learned through *shaping*, which requires that the complex behavior be broken into small component behaviors that when mastered sequentially will result in the complex behavior being performed. Learners are moved from the initial behavior to the desired behavior by successively reinforcing each approximation to the desired behavior.

Operant conditioning has seen wide applicability in education. The basic process of instruction involves shaping, where initial behaviors are what students can do now and desired behaviors are the goals of learning. Substeps are developed, each of which represents a small modification of the preceding one. Students are moved through the sequence using instructional methods (e.g., explanation, demonstration, and practice). Students respond to the material and receive reinforcement. Operant conditioning also has been applied to change students' maladaptive behaviors to those more conducive to learning, a process known as *behavior modification.*

Cognitive Theories

Three contemporary cognitive theories are information processing theory, social cognitive theory, and social constructivist theory. These theories contend that learning involves not only changes in behavior but also changes in the underlying mental processes (e.g., cognition, beliefs, and emotions). Although external (environmental) events and stimuli are important, they have no automatic effects on learning. Rather, people interpret external information and construct their own understandings, which may or may not be accurate reflections of reality.

Information processing theory views learning as the cognitive processing of information and encoding (storing) it in long-term (permanent) memory. For this to occur, information must be attended to and register in working (short-term) memory, or the memory of immediate consciousness. Learners activate relevant portions of long-term memory and relate information in working memory to their long-term memory networks. Learners help create these networks by organizing information for encoding.

Information processing theory stresses the role of metacognition, which involves individuals monitoring, directing, and regulating their actions toward learning. Metacognition includes task knowledge (e.g., what is to be learned; when, where, and how it is to be learned) and self-knowledge (e.g., personal capabilities and interests). Earlier conceptions had little to say about the role of noncognitive variables (e.g., motivation and emotions), but recent views construe these variables as cognitive resources available to learners while working on tasks.

Social cognitive theory, as espoused by Albert Bandura, predicts that learning can occur enactively through performing and vicariously through observing modeled performances. Vicarious learning takes place in the absence of learner performance at the time of learning. Vicarious learning accelerates learning over what is possible if people had to perform every action to learn and saves people from experiencing undesirable consequences. Most learning of complex skills occurs both vicariously (e.g., students observe teachers explain and demonstrate skills) and enactively (e.g., students practice and receive feedback).

Social cognitive theory postulates reciprocal interactions between three sets of influences: (1) personal (e.g., cognitions, beliefs, skills, and affects), (2) behavioral, and (3) environmental. Each of these is both influenced by the others and in turn influences them. People seek to develop a sense of agency, or the belief that one has a large degree of control over important aspects of one's life. Within this framework, a key variable is *self-efficacy*, defined as beliefs about one's capabilities to learn or perform actions at designated levels. As a personal factor, self-efficacy can influence learning (efficacious learners are motivated and use effective learning strategies) and be influenced by learning (observations of one's learning strengthens self-efficacy for further learning.

Social constructivist theory contends that individuals construct knowledge and meanings based on their interpretations of situations. People are active learners who develop understandings using information they receive and interpret. Learning is situated within contexts, which reflects the constructivist assumption that contexts are inherent parts of learning.

Social constructivist theorists have been influenced by the developmental theory of Lev Vygotsky and emphasize the social environment as a facilitator of learning. Vygotsky's sociocultural theory stressed the interaction of individual (e.g., learning differences), social/interpersonal (e.g., social interactions), and cultural (e.g., languages and symbols) factors as keys to learning and development. Learning involves learners constructing understandings in socially mediated contexts, which they use to direct their learning and performances. Initially, the language and actions of others guide individuals' behaviors, but learners construct internalized mediators to regulate their actions. Internalization can be facilitated through social interactions in the zone of proximal development, or the difference between one's current capabilities and what can be attained with social guidance.

Conclusion

Theories of learning offer reasonable explanations of how learning occurs. They provide frameworks for interpreting research results and serve as a means of connecting research with educational practice. Theories of learning reflect philosophical ideas expressed in the doctrines of rationalism and empiricism, and early learning research helped establish psychology as a science. Two major classes of contemporary learning theories are behavior and cognitive. Behavior theories view learning as a change in the rate, frequency, or occurrence of behavior, whereas cognitive theories conceive of learning as involving changes in learners' mental processes that manifest themselves behaviorally. Research on learning is an active area, and insights from other fields (i.e., neuroscience) are likely to affect learning theories and research in the future.

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See also Aristotle; Associationism; Behaviorism; Cognitive Revolution and Information Processing Perspectives; Evolution and Educational Psychology; Faculty Psychology and Mental Discipline; Insight Learning; James, William; Knowledge, Analysis of; Metacognition; Neurosciences and Learning; Plato; Popper, Karl; Postpositivism; Problem-Based Learning; Radical Constructivism: Ernst von Glasersfeld; Self-Regulated Learning; Social Cognitive Theory; Spectator Theory of Knowledge; Transfer of Learning; Vygotsky, Lev

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Legal Decisions Affecting Education

It has been estimated that there are more than 10,000 lawsuits filed against school districts, schools, educators, and educational bureaucracies and officials in the United States each year. Local, state, and federal courts, both trial and appellate, are asked regularly to adjudicate a broad range of disputes involving schools and their various constituencies. Students or parents dissatisfied with some aspect of the treatment that a student has received from the educational system or a particular school or educator bring the majority of these lawsuits, but educators themselves also sue their schools and systems, as do outsiders. In some cases, schools themselves initiate the suits. There is hardly any significant area of educational policy or practice that has not been the subject of significant litigation.

Regardless of the status of the plaintiff, most education-related litigation is of little significance other than to the parties who are directly involved. Whether a student wins or loses a case claiming that a school negligently caused a playground injury, a teacher succeeds or fails to convince a court that a contract nonrenewal was unlawful, or a contractor or school district prevails in a case regarding disagreement over work performed at a school, usually has little or no effect on the policies and practices of schools. A small percentage of cases do cause schools, school districts, and states to change the way they conduct their educational business. An even smaller percentage of cases produce landmark decisions that have profound and lasting effect on educational policy and practice.

Most of the landmark decisions in education, as in most other sectors of law, are issued by the highest federal court, the Supreme Court of the United States, but some come from the next level of federal court, a federal circuit court of appeals, or from the highest court of one of the states. Usually, these cases involve questions concerning the extent and limitations of the school's power over and obligations to one or more of its constituencies: its patrons, parents, teachers, or, most commonly, its students. Most of the landmark decisions provide a novel interpretation of a constitutional provision or statute, one that has the effect of expanding or contracting the legal rights or responsibilities not only of the parties involved in the case but also of others similarly situated. Some of the cases directly and pointedly tell educational agencies, schools, and educators what they may do, must do, or must not do. Some have effects that are more theoretical and less immediate; they expound a legally mandated theory of education, such as that children are not mere creatures of the state or that a school should function as a marketplace of ideas. Some cases are most important for what they do not do; they give legal backing to things as they are rather than mandating the changes that plaintiffs had sought.

This entry identifies and discusses some of the most important court decisions affecting education, the focus being on the United States. These cases raise a variety of legal, educational, and philosophical issues, and they can be categorized in a variety of different ways. For purposes of this discussion, the cases are organized into the following categories: compulsory schooling, curriculum, and parents' rights; religion in the school; equality of educational opportunity; school finance; students' rights; and teachers' rights.

Compulsory Schooling, Curriculum, and Parents' Rights

Pierce v. Society of Sisters (1925) was one of the earliest education cases heard by the Supreme Court.

The case was a challenge to the constitutionality of a newly enacted compulsory education law in the state of Oregon. Unlike the compulsory education laws already in existence at the time and those that exist in every state today, Oregon's law would have compelled every child between 8 and 16 to attend *public* school. The Society of Sisters, a religious order that operated an orphanage and a school, successfully argued that enforcement of the law would impermissibly damage the business of their school and would also violate the rights of parents to choose an appropriate upbringing for their children.

The Court's ruling in *Pierce* that a public school–only law violates parental rights has played an important role in defining the balance of power between parents and the state with regard to the education of children. The decision, which has come to be known as the *Pierce* compromise, affirmed the right of the state to require children to attend school but allowed parents to select a private school to satisfy the requirement. The ruling further authorized states to regulate private schools, such as by requiring the teaching of subjects required for good citizenship. The *Pierce* compromise gives legal recognition to the state's compelling need for an educated citizenry while prohibiting the state from attempting to standardize its children by insisting that teachers employed by the state teach them.

Wisconsin v. Yoder (1972) was another case in which a state was found to overstep its constitutional authority to compel children to attend school. The case involved a group of Amish parents who objected on religious grounds to Wisconsin's requirement that their children attend school beyond the eighth grade. After considering the historical record of the Amish as self-supporting farmers and the Amish plan to prepare their children to continue this tradition, the Supreme Court decided that the Amish's right to practice their religion outweighed the state's purpose in requiring children to remain in school until the age of 16 years. Still, despite the victory of the plaintiffs, the *Yoder* decision reaffirmed the general right of the state to make and enforce laws designed to ensure that all children receive an education reasonably calculated to allow them to become contributing members of society.

The Amish are not the only parents who have objected to a state's educational program on religious grounds. In *Smith v. Board of School Commissioners of Mobile County* (1987), parents unsuccessfully claimed that a school's choice of textbooks for its social studies classes violated the requirements of the Establishment Clause by promoting the religion of secular humanism. Similarly, in *Mozert v. Hawkins County Board of Education* (1987), parents and students unsuccessfully argued that being forced to participate in programs designed to promote critical thinking, tolerance, and moral development violated their right to free exercise of religion. The outcomes of these and other similar cases indicate that exposing students to ideas, theories, and practices that conflict with or coincide with the ideas, theories, and practices of their own or another religion does not constitute a constitutional violation as long as there is no compulsion to believe or to behave in ways that their religion prohibits. Public schools have broad discretion in deciding what they will teach and what materials and methods they will employ even if parents object.

Religion in the School

The First Amendment prohibits all entities of government, including public schools, from taking any action that amounts to "an establishment of religion." Many education law cases have required courts to interpret this requirement with regard to specific actions of a school. In 1962, in *Engel v. Vitale*, the Supreme Court prohibited the long-standing practice of many public schools of beginning each day with a "nonsectarian" prayer. The next year, in *School District of Abington Township v. Schempp*, the Supreme Court prohibited schools from including Bible readings in their opening ceremonies. In 1992, in *Lee v. Weisman*, the Supreme Court banned the practice of opening prayers at graduation ceremonies, and eight years later, in *Santa Fe Independent School District v. Doe*, the Supreme Court ruled that schools could not initiate or encourage prayer at athletic events even if the prayer was selected and led by students.

The underlying principle of these rulings is that public schools must remain neutral relative to religion. In *Lemon v. Kurtzman*, a 1971 case that prohibited states from subsidizing parochial school programs and teachers, the Supreme Court fashioned a three-part test for determining whether the actions of a school violate the Establishment Clause. According to the *Lemon* test, a school program is unconstitutional if (a) its purpose is to endorse or disapprove of religion, (b) its primary effect is to aid or inhibit religion, or (c) it creates excessive entanglement between church and school. Lower courts have cited the neutrality principle and employed the

Lemon test in prohibiting other forms of school-sponsored prayer and religious ceremonies and invocations at school-sponsored events. Courts have specifically rejected claims that eliminating organized prayer from schools indicates disapproval of religion or violates the free-exercise rights of those who wish to pray.

Epperson v. Arkansas (1968) was a challenge by a biology teacher to a state law that prohibited the teaching of the theory of evolution. While affirming the general right of a state to determine the curriculum of its schools, the Supreme Court nevertheless struck down the law, because it had been adopted for a religious purpose. The sole reason for the state's ban on this one theory, said the court, was that it contradicted the religious beliefs of some of its citizens. Courts have relied on *Epperson* and the *Lemon* test in striking down a variety of state laws and school district policies mandating a "balanced treatment" between evolution and creationism or intelligent design or requiring teachers to include a "disclaimer" asserting that evolution is a theory and not a fact. At the same time, the courts have repeatedly affirmed that the fact that a school curriculum happens to be consistent with the teachings of one or more religions does not make it impermissible. Schools are free, for example, to teach that murder is wrong despite the fact that this is also a Judeo-Christian teaching as long as they have a secular reason for doing so.

Equality of Educational Opportunity

Prior to 1954, states were free to maintain separate school systems for Blacks and Whites, and school districts were free to assign students to schools or classes by race. The legal justification for racial segregation was the separate-but-equal doctrine, which held that the Fourteenth Amendment's Equal Protection Clause did not require integration but only that all citizens be given the same treatment by the state. Under separate but equal, there was no constitutional violation as long as children of all races were provided with schooling even if the state intentionally separated the children by race.

In 1954, the Supreme Court's decision in *Brown v. Board of Education* brought an end to the era of separate but equal. The Court reasoned that even if the education provided to Black children in segregated schools was equal in every tangible way to the education provided to White students, the very fact of segregation meant that the Black students were receiving a message of inferiority that was likely to have far-reaching negative effects. Thus, said the Court, requiring Black children to attend segregated schools violates their right to equal protection of the laws.

Despite the theoretical importance of *Brown* and a few highly publicized instances of federal intervention to integrate segregated school systems, not much progress was made in school desegregation for 14 years following the decision. Then, in the decade beginning in 1968, the Supreme Court issued a number of decisions imposing specific requirements and authorizing lower courts to closely supervise school districts under judicial orders to desegregate. *Green v. County School Board of New Kent County* (1968) closed a number of loopholes that had allowed school districts to maintain segregated schools. *Swann v. Charlotte-Mecklenburg Board of Education* (1971) permitted the redrawing of school attendance areas and some limited use of busing to create more integrated schools. *Milliken v. Bradley* (1974, 1977) authorized a variety of remedial educational measures designed to counteract the negative effects of segregation but disallowed a lower court order that would have required incorporating suburban school districts into a desegregation plan. The Court's rejection of cross-district desegregation remedies severely limited the possibility of fully integrating schools in many metropolitan areas.

Since 1980, courts have found that most formerly segregated school districts have complied with their obligation to desegregate and have released them from further court supervision. In 2007, in *Parents Involved in Community Schools v. Seattle School District No. 1*, the Supreme Court issued a ruling that outlawed most if not all school assignment plans that are based either wholly or partially on race. The court declared that any reliance on race in assigning students to schools violates the Equal Protection Clause even if the purpose of considering race is to create more racial balance in a district's schools. As a result, school districts are prohibited under most circumstances from carrying out voluntary integration plans that employ race as a factor in school assignment.

Since *Brown*, groups other than racial minorities have attempted to use the courts to gain more equitable treatment by schools. Advocates for children with disabilities successfully argued in two 1972 cases, *Pennsylvania Association for Retarded Children v. Commonwealth of Pennsylvania* and *Mills v. Board of Education* that excluding these

children from school, as many states did at the time, violated the Equal Protection Clause. These decisions and the continued work of advocacy groups led to the passage of the Individuals with Disabilities Education Act in 1975 and to many subsequent court decisions further defining the educational rights of children with disabilities.

In *Lau v. Nichols*, a 1974 Supreme Court case, plaintiffs successfully claimed that under Title VI of the Civil Rights Act of 1964, limited- and non-English-speaking children had a right to some form of special assistance designed to help them overcome the educational disadvantages created by their lack of English proficiency. As with the cases involving children with disabilities, the *Lau* decision led to the passage of a federal law, the Equal Educational Opportunity Act, requiring schools to take what the law called "appropriate action" to help students who lack proficiency in English. A 1981 case, *Castaneda v. Pickard*, further defined the obligations of schools under Title VI and the Equal Educational Opportunity Act.

School Finance

San Antonio v. Rodriguez was a 1973 case in which the Supreme Court decided that a state system for funding education that provided considerably less money per pupil to some school districts than others did not violate the Equal Protection Clause. The bases of the ruling were that children do not have a fundamental constitutional right to education and that inequitable funding schemes are constitutionally acceptable if they are rationally related to the legitimate state goal of providing an adequate education to all children in the state. *Rodriguez* effectively eliminated the federal courts as a venue for plaintiffs seeking modification of an inequitable state system for funding schools. As a result, reformers turned to the state courts, a process that had already begun when *Rodriguez* was decided.

In 1971, in *Serrano v. Priest*, the California Supreme Court issued a ruling that was essentially the opposite of *Rodriguez*. The *Serrano* court declared that children do have a constitutional right to education, that inequitable funding of education is not rationally related to any legitimate state goal, and that the state is required to fund its schools in a manner that does not base the amount of money available for the education of a child on the wealth of the school district in which the child happens to reside. Although *Rodriguez* seems to overrule *Serrano*, *Serrano* remains in force in California because it is based on the California constitution in addition to the U.S. Constitution. Many other state courts have issued rulings like *Serrano* requiring their state legislature to revise its system of providing funding for schools. Other state courts have echoed *Rodriguez* and allowed inequitable educational funding systems to remain in place. No court, *Serrano* included, has declared that a state is required to spend exactly the same amount of money on every pupil in the state.

Another group of lawsuits have attacked the adequacy under a state constitution of some or all of the state's schools. Like the funding equity cases, the adequacy cases have had mixed results. The best known of the successful cases, *Rose v. Council for Better Education, Inc.*, was decided by the Kentucky Supreme Court in 1989. The *Rose* court ruled that to be acceptable under the state constitution, the education provided to every child in the state had to be reasonably calculated to meet a set of specified goals designed to prepare the child to participate in and contribute to modern society. The court concluded that it was the legislature's duty to provide whatever level of funding was necessary to meet these goals.

Students' Rights

In 1967, the Supreme Court in the case of *In re Gault* ruled that children are entitled to constitutional protections although not necessarily to the same extent as adults. Two years later, in the case of *Tinker v. Des Moines Independent School District*, the Supreme Court declared that students retain the right of freedom of speech while at school. At the same time, the *Tinker* decision recognized that schools must be able to maintain order if they are to accomplish their educational mission. To balance these competing interests, the Court formulated a rule, often referred to as the *Tinker* test, for determining the limits of student free speech. The *Tinker* test holds that schools may only prohibit student speech that materially and substantially disrupts the operation of the school or violates the rights of others. Generally speaking, schools may limit the time, place, and manner of student speech to maintain order within the school. However, schools may not prohibit student speech because of disagreement with the viewpoint of the speaker.

A large number of subsequent cases, including three Supreme Court cases, have further clarified the extent and limits of the free-speech rights of students.

In 1986, in *Bethel School District No. 403 v. Fraser*, the Supreme Court allowed a school to prohibit the use of offensively lewd and indecent words in a student speech given at a school assembly. Two years later, in *Hazelwood School District v. Kuhlmeier*, the Court drew a distinction between independent and school-sponsored speech. Independent student speech may only be regulated in accordance with the *Tinker* test. But when student speech occurs in a school-sponsored forum, such as a school newspaper, the school may regulate the speech for any legitimate pedagogical reason. In 2007, in *Morse v. Frederick*, the Supreme Court ruled that student speech advocating the use of illegal drugs may be prohibited at school.

Two other Supreme Court cases have formulated rules concerning student discipline designed to balance the rights of students with the school's need for order. In 1985, in *New Jersey v. T.L.O.*, the Court ruled that the Fourth Amendment protects students from unreasonable searches and seizures of their property at school. However, the decision stops short of requiring that school searches be based on the same criterion of probable cause as police searches. Instead, the Court ruled that school officials may search a student if they have reasonable grounds to believe that the search will reveal evidence that the student has violated a school rule or law. Just how strong the suspicion must be depends on a number of factors, including the exigency and intrusiveness of the search.

In a 1975 case, *Goss v. Lopez*, the Supreme Court ruled that students have a right under the Due Process Clause of the Fourteenth Amendment to a hearing before being suspended from school. At the same time, the *Goss* decision recognized that schools would be unduly burdened if they had to provide a hearing for all school-based punishments or if every short suspension required a formal process that included lawyers and presentation of evidence by both sides. Thus, the Court decided that for suspensions of 10 days or less, the school need only inform the student of the reasons for the suspension and provide the student with an opportunity to explain what happened. *Goss* indicates that more extensive procedures are required for suspensions of more than 10 days.

Teachers' Rights

In 1967, in *Keyishian v. Board of Regents*, the Supreme Court ruled that the constitutional guarantee of freedom of speech protects a teacher's right to be a member of a political organization that opposes the government. One year later, in *Pickering v. Board of Education*, the Supreme Court found that teachers have a free-speech right to speak out on matters of public concern and to criticize the policies and actions of their school board. A number of subsequent cases have placed some limits on teacher speech that directly concerns or has a direct effect on the school. The most of significant of these cases, *Connick v. Myers* (1983), allows schools to punish teachers for speaking on matters of public concern when the disruption caused by the speech outweighs the importance of the speech as public discourse.

A large number of cases have concluded that when they are not at school or on duty, teachers generally have the right to engage in noncriminal behavior as they see fit even if the community or school board disapproves. The major exception is that school boards may punish teachers for out-of-school behaviors that have a significant negative effect on their ability to do their job. Courts have been consistently less sympathetic to teachers claiming the right to behave as they wish while on duty or that academic freedom protects their right to teach as they wish. Courts have consistently stated that schools may insist that teachers teach whatever curriculum and in whatever manner the school selects. A 2006 Supreme Court case, *Garcetti v. Ceballos*, ruled that public employees do not have free-speech rights when speaking as part of their official duties.

Michael Imber

See also Affirmative Action; Children's Rights; Equality of Educational Opportunity; Ethnicity and Race; Quality of Education; Right to an Education; Rights: Children, Parents, and Community

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Liberal Education: Overview

Liberal education comprises a tradition of educational theory and practice that connects the intrinsic value of learning with the aim of living a cultured and flourishing life. First articulated by educators in ancient Greece and Rome, liberal education has been prominent and often dominant in Western schooling through the centuries. It has evolved from a type of education prescribed for male aristocrats to one that is frequently seen as fundamental, even essential, for everyone—and especially for responsible, democratic citizens. Despite its record as a wellspring of intellectual life and culture, both its meaning and its value have frequently been disputed; its history displays competing interpretations, a cluster of rationales, evolving curricula and pedagogy, and a diversity of educational programs mounted by a succession of institutional forms. After identifying potential conceptual confusions, this entry discusses various conceptions and criticisms of liberal education.

Liberal Education as a Type of Education

Theorists who seek to explicate education *tout court* often end up articulating a conception that closely resembles or features liberal education: Educational literature, both scholarly and popular, is often written with liberal education implicitly in mind. Advocates may write as though the term refers to the only *genuine* education. Yet liberal education is a distinctive type of education: One may, in principle, debate its value without questioning the value of education itself or implicating other forms of education. It is therefore misleading to identify it either with education *tout court* or with a *good* education. Such confusions about the concept are common because liberal education has in fact been so preeminent, and because it has such holistic goals and broad educational focus: a good life, one's life as a whole. It is also a common temptation for theorists to blur the descriptive and normative analyses of a practice. But building the judgment of *good education* into the very concept of liberal education and its instantiations precludes evaluative judgments, and it is fallacious to assume that an education focused on the good life is necessarily a good education. Nor is it conceptually precise to confound liberal education with *general* education—a term that refers either to the nonspecialized portion of a degree program (which is usually intended to preserve some experience of liberal education) or to learning that is foundational to more specialized studies.

The elusive distinctiveness of liberal education is commonly denoted in contrast with other forms of education, such as vocational, religious, or professional education—and also with all varieties of training. In specifying what it *is*, rather than what it *is not*, however, educators have located the distinctive and definitive element of liberal education—what makes an education *liberal*—variously in its scope and aims, in its curricular content, in its pedagogy, and in its institutional forms.

Scope and Aims

The term *liberal* is not in this context a reference to the political viewpoint of contemporary liberalism; rather, it invokes the Latin word *liber*, meaning "free." Even in the ancient world, the association with freedom was dual. From the viewpoint of educators, it designated the education that was suitable for those who are free (not enslaved), who have civic responsibilities, and who enjoy the leisure time to pursue activities of intrinsic value—typically men of property. From the viewpoint of the learner, it was characterized as learning that liberates the mind or soul, freeing the student from many forms of ignorance and prejudice. Both interpretations point toward the ultimate goal of living a good life, a life in which one may flourish.

Liberal education, it is claimed, provides the chief means to or essential components of a good life—or perhaps entails activities that *constitute* the good life. Different conceptions of the good in a "good life," with different balances of intellectual and moral components, have led to further specifications of the aim of liberal education. These have included the transmission of cultural heritage and the cultivation of the life of the mind, self-actualization as the development of both competence and character, the understanding and contemplation of the world and the place of humanity within it, the preparation for informed and responsible citizenship and social service, and the acquisition of complex skills of learning and practical reasoning—critical thinking, information literacy in multiple formats, moral reasoning, and effective communication,

for example—which, along with a commitment to lifelong learning, enhance personal effectiveness. In all these apparently varying specifications, liberal education remains distinctive in connecting them with the concern for the good life and thus having broader scope and different aims from other forms of education.

The classic statement of the aims of liberal education, or at least the most influential and provocative in recent centuries, is John Henry Newman's *The Idea of a University* (1852). In its collected essays, Newman argues that liberal education is the purpose of a university, by which he means an education that cultivates the mind, that values learning for its own sake, and that is "philosophical" in presenting "a comprehensive view of truth in all its branches." Such an education reveals the unity of knowledge (reflected in the term *university*). Newman's account is, however, decidedly Victorian in both its claims and assumptions—such as its exclusive educational focus on "gentlemen" and acknowledging the production of "good members of society" as its single, reluctant concession to "practical" ends.

Curriculum

Another historically grounded approach is to characterize liberal education in terms of its distinctive curriculum: an education in the liberal arts. The Latin term *artes liberales* was employed by classical authors such as Seneca and Cicero; it became a standard usage by the Middle Ages. Even earlier, Aristotle, among Classical Greek writers, used the cognate term *technai eleutheriai* and related forms (*Politics*, 1337b to 1338b) to designate studies that encouraged intellectual and moral values, in contrast to "banausic" or practical studies, such as technical training. Both the Greek and Latin terms may be rendered equally well as "the liberal arts" or as "the skills of freedom"; they denote prescribed disciplines, meaning both bodies of knowledge to be studied and regimens for the mastery of skills or crafts. This educational regime featured a breadth of study in subjects that comprehensively represented the most valuable forms of learning for free individuals.

The proper list of liberal arts disciplines and their relative priority has been the subject of frequent dispute. The prototype of such debate is the conflict between Socrates and the Sophists, continued in the competitive schools of Plato and Isocrates, in which the tension focused on the comparative importance of dialectic and rhetoric. In the 2nd century BCE, Varro employed a list of nine liberal arts (*Nine Books of Disciplines*) as the basis for organizing knowledge. Two of those, medicine and architecture, neither of which had ever been included in the Greek list, were dropped thereafter. The remaining seven were eventually organized into two divisions: the methods studies of the *trivium*, including logic, grammar, and rhetoric; and the substantive studies of the *quadrivium*, including arithmetic, geometry, astronomy, and music. "Music" here (from the Greek *mousikē*) embraces those studies inspired by the Muses—roughly, the humanities and fine arts. This curriculum was ultimately completed by the capstone study of philosophy (dialectic or philosophical theology), which was seen as the quintessential liberal art. A chief architect of this scheme was Martianus Capella, who codified this list in his elaborately allegorical work, *De nuptiis philologiæ et Mercurii* (written between 410 and 429 CE). It portrayed the marriage of eloquence and wisdom, celebrated in the groom's gifts of the seven liberal arts. This odd, allusive work was enormously influential, defining the liberal arts and inspiring its iconography for seven centuries, from the Middle Ages until the 12th-century stirrings of the Renaissance.

The rediscovery of ancient texts that energized the Renaissance stimulated a shift in prescribed curricular content. Scholars used the term *studia humanitatis* to describe the study of the human experience based on classic texts. Beginning perhaps with Pierpaolo Vergerio's *De ingenuis moribus et liberalibus studiis* (1403), and elaborated in the works of thinkers such as Leonardo Bruni, Erasmus, and Juan Luis Vives, the text-based study of the "humanities" was given special emphasis as the core of liberal education.

From the Enlightenment to the present day, rapid changes in the scope and structure of knowledge have altered the curriculum. Natural philosophy spawned scientific disciplines—physics, chemistry, biology, and geology—as integral, empirical fields. In the 19th century, the social sciences (economics, political science, sociology, and anthropology) along with psychology emerged from philosophy to become distinct disciplines. All claimed a place within liberal education; they could not be ignored in an education that aimed at a comprehensive understanding of the world and the human condition. Such scientific disciplines would of course present a challenge to a curriculum largely devoted to the study of classical humanities. During the same

period, moreover, there arose internal challenges to the curricular mandate of classical texts and the requisite study of Latin and Greek. The humanities were modernized to include literature, philosophy, and history originally written in vernacular languages and focused on more recent periods.

In the 20th century, disciplines morphed in method, exploded in content, multiplied further, split into subdisciplines, and blended in interdisciplinary fields of study. In addition, where the content had been Eurocentric, it expanded to include the languages and cultures of other areas of the globe, as well as peoples previously marginalized within Western cultures. The traditional focus of study on artifacts of "high" culture was widened to include "popular" culture as well.

The impact of these developments produced two deep problems for the liberal education curriculum. The first was that the fissure between the humanities and the sciences, along with the sheer profusion of fields, challenged (pace Newman) the long-standing belief in the unity of knowledge. "Arts and sciences," a clarifying term with increasing popularity, suggested both inclusion and division. The second was that, as the diversity and scope of knowledge exceeded reasonable curricular bounds, the touchstone of curricular comprehensiveness had to be replaced by a principle of selection. "Degrees in course," in which all enrolled students were taught the same sequenced content, were replaced by programs that permitted alternative choices for elective and specialized study.

As this brief sketch of curricular evolution suggests, it is problematic to define "liberal education" as study of a particular list of liberal arts disciplines. Theorists who nonetheless look to curricular content have sought firmer ground from two other sources: a treasury of endowed cultural artifacts or deeper epistemic structures that underlie the disciplines. Those turning to culture, most of them heirs to the humanistic emphasis, move to greater particularity; they identify the content of liberal education with a set of masterworks endowed with cultural meaning: the great texts and masterpieces of art that form "the canon." The standard of "greatness" may imply a universality of theme, illumination of the human condition, virtuosity of execution, extent of cultural influence or currency, or inherent value. Robert Maynard Hutchins (1929–1951) proclaimed the value of this Great Books curriculum from his perch as president and then chancellor of the University of Chicago. Like-minded colleagues spread the Great Books idea throughout the United States: Scott Buchanan and Stringfellow Barr shaped the identity of St. John's College (Annapolis, Maryland) through the establishment of an undergraduate program based entirely on the reading of Western classics; Mortimer J. Adler pursued a multipronged effort to encourage all citizens to engage with classic texts—study guides, group reading programs, inexpensive editions of canonical texts, comprehensive curricula (e.g., the Paideia Program), and even a foundation to promote such programs. The British thinker, Michael Oakeshott, memorably described such an education as participation in the inherited conversation of mankind. Theorists may become even more specific and identify the proper curricular content as that set of memes essential for participating effectively in contemporary culture. But this movement to a curricular essentialism that specifies requisite texts or memes for cultural literacy carries notorious risks of parochial vision, subjective bias, and presumptuous cultural hegemony.

Alternatively, theorists may locate the content of liberal education in fundamental epistemic structures that undergird the disciplines. Such structures might be theorized, for example, as methods of inquiry, realms of meaning, or a priori structures of knowledge. Thus, a liberal education might require an understanding of the methods of science, for example, rather than the study of specific scientific disciplines or memes; it might require humanistic study, but not necessarily English history or the plays of Shakespeare.

Contemporary liberal education typically involves the following:

1. Required selective breadth of study distributed across forms of knowledge or linked to broad learning goals
2. The choice of a field for study in depth—the major
3. Elective studies
4. An array of experiential educational activities, such as service learning, internships, study abroad, research collaborations, and purposeful cocurricular activities

Pedagogy

Some educators prefer to call an education "liberal," if it employs certain distinctive pedagogies. In this approach, a liberal education is less about *what* is taught and more about *how* it is taught; one might therefore claim that a subject like accounting is

appropriately part of a liberal education provided it is taught "liberally."

But explicating just what it means to teach liberally is difficult. First, teaching methods change, so one must comprehend this evolution in any account that is meant to transcend the methods of the moment. Second, there are several levels at which one could locate a distinctive pedagogy: from the reliance on specific teaching techniques to the fundamental assumptions and values manifested in teaching. For example, liberal education is often identified with the technique of Socratic dialogue, the give-and-take of proposal and critique in a conversation aimed at a clarifying and deepening the understanding of contested concepts. But one could speak more broadly of teaching "liberally" as the sort of teaching that routinely requires students to go beyond remembering and comprehending to engage in "higher" activities such as evaluating, analyzing, integrating, and synthesizing or creating content. Finally, one may offer a holistic account of liberal pedagogy, describing it, for example, as teaching that respects the student's autonomy and critical faculties, that embodies the love of learning, or that constantly refers to "the larger picture" of personal, social, and moral implications.

Critiques and Contemporary Issues

One popular genre of criticism faults current practice as failing to live up to the ideals of liberal education. Allan Bloom—philosopher, classicist, and another Chicago advocate of a "Great Books" curriculum—virtually defined the genre in his widely read jeremiad, *The Closing of the American Mind* (1987), which has spawned scores of imitations and refutations. Depending on the conception of liberal education endorsed by the author, these critiques may diagnose the causes of decline as curricular dilution and incoherence, technology or programmatic distractions to learning, subversive student culture, the adoption of corporate or utilitarian values, faculty inattention to teaching, overspecialization, the research ethos, the failure to connect with human lives or to pose "big questions," or other alleged degradations.

Another genre of critiques targets the ideal of liberal education itself. The charges include perennial allegations that liberal education is essentially impractical and remote from the genuine issues of life, elitist in practice and aristocratic in values, inappropriately academic as the required core of schooling, and resistant to assessment of its claims. Postmodern critics have added charges that liberal education is excessively rationalistic; indifferent to emotions, relationships, and family and professional responsibilities; and that it is a lofty ideal that masks sexism, elitism, and cultural imperialism—or that anachronistically presumes a common culture. Such critiques, however, are usually directed, implicitly or explicitly, toward particular conceptions of liberal education.

Today, a declining portion of degrees earned in higher education are in the liberal arts; many pronounce liberal education to be in peril. Yet it survives, is periodically renewed, and often thrives in many secondary schools; in small, independent liberal arts colleges; in designated public liberal arts universities; in the arts and sciences divisions (or "university colleges") of many research universities; and in the resurgent educational institutions of numerous recently liberated countries around the world.

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See also Adler, Mortimer, and the Paideia Program; Cultural Literacy and Core Knowledge/Skills; Education, Concept of; Essentialism, Perennialism, and the "Isms" Approach; Knowledge, Structure of: From Aristotle to Bruner and Hirst; Liberalism; Oakeshott, Michael

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LIBERALISM

The meaning of liberalism, conveyed immediately by the term itself, involves a political philosophy centrally devoted to liberty. As with any grand political philosophy, however, the meaning of liberalism is deeply contested, so much so that it is perhaps easier to speak of varieties of liberalism rather than liberalism as such: classical and modern liberalism, comprehensive and political liberalism, neoliberalism, libertarianism, welfare liberalism, and so on. John Locke, Adam Smith, Thomas Jefferson, James Madison, John Stuart Mill, John Dewey, Isaiah Berlin, John Rawls, and Jürgen Habermas all are exponents of liberalism, but in their work can be found different interpretations of liberty, yielding different understandings of the boundary between the public and the private domains, the role and nature of education, the appropriate scope of toleration, and the conditions of legitimate state power. This entry examines the essential characteristics of any liberal political philosophy, noting where differences in interpreting core concepts lead to different varieties of liberalism.

However, it is important to stress at the outset that the educational challenges presented by the various forms of liberalism that are described below are daunting and indeed are hotly contested—which perhaps explains why the literature focusing on liberalism in philosophy of education has been rapidly growing for several decades. Thus, among the questions addressed are the following: Should autonomy be cultivated in children, and if so, how? What civic virtues and skills are necessary, and what role ought the schoolhouse play in fostering them? Do parents have the right to control the nature of the education of their children, whether in homeschooling or in private or public schools? How is equality of educational opportunity to be understood, and how is that ideal to be related to the liberty interests of parents and communities to construct educational opportunities for their children? Do communities or cultural groups have rights that, in educational contexts, outweigh the freedom of children to be self-determining? What rights in determining the nature of education are possessed by the state? What conditions need to be provided so that individuals become equal as citizens and are able to exercise their individual freedoms?

Preliminary Observations

At its most basic, liberalism describes a political philosophy in which liberty or freedom of the individual is central. Individual liberty is taken to be a default position, a starting presumption, and restrictions on liberty, especially those imposed by the state through coercive means, stand in need of justification. The foundational role of individual liberty delivers a limited government or restrained state that respects human conscience and religious diversity and that champions, in Jefferson's famous words, "life, liberty, and the pursuit of happiness." The educational implications are nontrivial.

Historically, liberalism arose during the Enlightenment, when the basic building blocks of many social orders—the divine right of kings and aristocratic privilege—were challenged and eventually uprooted in the American and French Revolutions. The first systematic expression of a liberal political philosophy can be found in the 17th-century philosopher Locke, who developed in his *Two Treatises of Government and a Letter Concerning Toleration* (Locke, 1689/2003), the idea of legitimate political order emerging from individuals in a state of nature who consent to be governed. Liberalism has since been associated with social contract theories of government, in which the legitimacy of government depends on the consent of the governed. Though scholars frequently argue that liberalism has some roots in antiquity, it is quintessentially a modern political philosophy.

Liberalism as a political ideology must not be confused with the frequent invocation of the term in ordinary politics, in which liberals are contrasted with conservatives, and where liberalism is a mark of political praise or condemnation. We may sensibly talk about liberals occupying space on the left and conservatives on the right of a political spectrum, but in many countries, both liberals and conservatives embrace liberalism as a political ideology. Most democracies today can be described as *liberal* democracies, committed to individual liberty, limited

government, and religious toleration. Among contemporary democratic countries, liberalism is the predominant political ideology.

Core Characteristics of Liberalism

Liberalism, however defined, has three core commitments: (1) *ethical individualism*, (2) *individual liberty*, and, growing out of these, (3) an understanding about the *relationship between the individual and the larger state or society.*

Ethical Individualism

What is the primary unit of analysis, or most fundamental element, around which society and political order is constructed? For some, and for most of history, the answer is the family, the clan, the ethnic or racial group, the nation, or a people; the claims of individuals can be subsumed under those of the group, and the task of political order is to promote the interests or well-being of a collective entity. For the liberal, the individual is ethically prior to any group, including the state itself. In its commitment to ethical individualism, liberalism does not deny that groups can have moral significance but understands the moral claims of the individual to be prior to those of any group. Families, clans, and other groups matter morally, but they matter because they contribute to the well-being of individuals.

Ethical individualism stipulates that each person matters, and matters individually in addition to whatever affiliations or attachments he or she has to collective entities. Moreover, each person matters, and matters equally; no hierarchy of persons or citizens can overturn the equal dignity and status of every individual. Males shall have no inherently greater status than females, no racial group a subordinated civic status. Thus, ethical individualism obliges one to evaluate political (and educational) institutions on the basis of how they protect and promote the well-being of individuals, where the equal moral status of all individuals is assumed. This is the methodological starting point of liberalism, and it makes clear that liberalism shows respect for the claims and concerns of individuals as stewards of their own lives, entitled to conduct their lives in accordance with their most deeply held values.

Individual Liberty

So liberalism begins with individuals and respect for their claims and concerns. So much is obvious. Individuals possess liberty and their liberty must be respected, both by the state and by other citizens. To say this—that we must understand human beings as free—is important and nontrivial, for many political theories deny the primacy of individual liberty or deny that certain persons ought to be accorded liberty at all. But what might it mean to respect the liberty of an individual? What does it mean for a person to be free? How does liberalism understand individual liberty?

In his classic essay "Two Concepts of Liberty" (1958/1969), Berlin articulated a distinction that captures two concepts of liberty that yield very different understandings of the task of liberal government. This is the distinction between negative liberty and positive liberty.

Negative Liberty

Liberty understood in the negative sense is freedom from interference or the absence of restraint or coercion. Berlin (1958) writes,

> I am normally said to be free to the degree to which no man or body of men interferes with my activity. Political liberty in this sense is simply the area within which a man can act unobstructed by others. If I am prevented by others from doing what I could otherwise do, I am to that degree unfree; and if this area is contracted by other men beyond a certain minimum, I can be described as being coerced, or, it may be, enslaved. (p. 122)

So understood, liberty is freedom from external impediments. Individuals possess liberty when they are free to avail themselves of actions or opportunities open to them; whether they actually do act on their options is less important than that they are at liberty to do so.

Positive Liberty

Liberty understood in the positive sense is freedom to act according to one's own will and to direct one's own life. It refers to a sense of individual capacity or, for some, the condition of being an autonomous agent. It is *freedom to* rather than *freedom from.* In Berlin's (1958) words,

> The "positive" sense of the word "liberty" derives from the wish on the part of the individual to be his own master. I wish my life and decisions to depend on myself, not on external forces of whatever kind. I wish to be the instrument of my own, not of other men's, acts of will. I wish to be a subject, not an object; to be moved by reasons, by conscious

> purposes, which are my own, not by causes which affect me, as it were, from outside. I wish to be somebody, not nobody; a doer—deciding, not being decided for, self-directed and not acted upon by external nature or by other men as if I were a thing, or an animal, or a slave incapable of playing a human role, that is, of conceiving goals and policies of my own and realizing them. (p. 131)

A common interpretation of Jean-Jacques Rousseau, for instance, reflects an understanding of liberty as positive liberty: A person is free to the extent that he acts in accordance with his will, a will that is also the general will (Rousseau, 1762). Unless individuals effectively "own" or endorse their actions, they are not authors or self-directors of their lives, and to this extent, they lack freedom. They are subject to the will of others or to the capriciousness of their own desires; they are manipulated and manipulable, even if never coerced.

Hence, a person may be free in the negative sense, unimpaired by external constraint, but unfree in the positive sense. The schizophrenic, the elderly person suffering from dementia, the very young child: All might be free from external impediment but are in some important sense unfree, for they do not possess positive liberty, they are not full, or autonomous, agents. Conversely, a person may enjoy positive liberty but be unfree in the negative sense.

A conventional way to understand the difference is to see negative liberty as the domain of circumstances external to an agent (e.g., to what extent is a person free from the control of others?) and positive liberty as the domain of circumstances internal to an agent (e.g., to what extent is a person self-determining, in control of her will?).

These different understandings of liberty yield sharply different political and educational implications. A liberalism committed to a conception of negative liberty delivers a decidedly limited or restrained government, a circumscribed public domain, and an especially wide scope for private action and a circumscribed role for public education; such a state is firmly antipaternalist, disinclined to interfere or intervene in citizens' lives except when their actions impinge on the liberty—and to that extent injure or harm—others. A liberalism committed to a conception of positive liberty delivers a still limited or restrained government, but one nevertheless justified in deploying state action, even coercion, to create the conditions in which people can fully exercise their liberty. For individuals to achieve autonomous agency and the possibility of self-direction, it might be necessary, for instance, that state action delivers education to all or mounts widespread antipoverty programs.

Berlin worried that the notion of positive liberty was potentially dangerous, for it could easily lead to abuses of state power. "It is possible, and at times justifiable," Berlin (1958) wrote, "to coerce men in the name of some goal (let us say justice or public health) which they would, if they were more enlightened, themselves pursue, but do not, because they are blind or ignorant or corrupt" (pp. 132–133). For the adherent of negative liberty, state paternalism is nothing short of despotism. For the adherent of positive liberty, failing to promote the conditions of individual agency, or autonomy, is to permit a formal freedom for all—but what value is negative liberty to the desperately poor, woefully ill, or simply ignorant?

Very generally, classical liberalism and libertarianism valorize negative liberty and the concomitant ideas of antipaternalism, freedom to trade and contract, and strict protection of private property. Modern liberalism and welfare liberalism valorize a version of positive liberty and the concomitant ideas of personal autonomy and a social safety net that liberates people from hunger, sickness, poverty, and lack of education. The most influential recent defense of this latter vision, marrying a liberal political philosophy to a theory of distributive justice, is Rawls's *A Theory of Justice*.

Relationship Between the Individual and State or Society

With the core characteristics of ethical individualism and individual liberty in place, it is easy to see how liberalism leads to a distinctive view of the relationship between the individual and the larger state or society. In contrast to monarchic or theocratic or aristocratic modes of government, liberalism respects the sanctity and dignity of all individuals, conceiving them as moral equals. Built around respect for individual liberty, liberalism guarantees freedom of conscience and grants permission to guide one's life in accordance with one's deepest convictions. The consequence is that individuals can, and do, make different decisions about how best to live. The seedbed of liberty produces a diverse flowering of ways of living. Liberalism does not possess a unitary vision of the good life. It not merely permits but actively champions in Mill's memorable phrase "experiments in living."

The liberal state therefore creates a regime of respect and toleration in relation to its citizens. In respecting persons as self-directed moral agents, liberalism tolerates the pluralism of values and beliefs that such agents come to endorse.

Liberalism is not only a philosophy of political institutions and the relationship of citizens to them. It delineates a vision of the relationship between individual and society too. As Mill was at pains to insist, the judgment of fellow citizens could be just as damaging to individual action and experiments in living as the coercive actions of the state. In its ethical individualism and championing of individual liberty, liberalism creates a social dynamic in which individuals might resist, should they so wish, the values of elders imposed on the young or the traditions of a cultural group transmitted across generations. Families, religious and cultural groups, and associations of all other kinds naturally have significant power and influence over the beliefs and behavior of their members, but their authority is legitimate only to the extent that they win the ongoing consent of the governed.

Some complain that liberalism is to this extent suspicious of community, that it represents a view of persons as atomistic individuals in principle unencumbered by deep attachments to family, friends, and groups. But this is mistaken. Liberalism conceives of the relationship between individual and society as one in which people are adherents, even devoted passionate adherents, of voluntary associations, defined by revocable membership.

And what of those associations that cannot ever be voluntary, such as the state or family into which we are born and through which we are socialized? Even here, liberalism views these initially involuntary associations as demanding some kind of ultimate or hypothetical consent. For Rawls, the liberal state is an association of associations, a social union of social unions, and, like any association or social union, subject to a demand for legitimacy. What makes the liberal state legitimate is the agreement of its members to be bound by principles of justice that govern their association. For Locke, children are not *born free* but *born to freedom*; they are to be emancipated from the authority of their parents and to be educated in the interim.

Rob Reich

See also Autonomy; Children's Rights; Citizenship and Civic Education; Communitarianism; Dewey, John; Equality of Educational Opportunity; Locke, John; Mill, John Stuart; Multicultural Citizenship; Rawls, John; Right to an Education; Rights: Children, Parents, and Community; Rousseau, Jean-Jacques

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Lifelong Education

The *ideal* of education as a lifelong endeavor is old and found in many of the world's societies and cultures (Faure et al., 1972). In these societies and cultures, it was usually an ideal for an elite group of scholars and perceived in terms of their personal flourishing. This entry discusses the evolution of the idea of lifelong education and its institutionalization and the key elements of the lifelong education movement.

Bogdan Suchodolski quotes Comenius's writing on *pampaedia*, or universal education, as the first treatise on the subject (Suchodolski, 1979, p. 36). After World War I, however, a British Adult Education Committee of the Ministry of Reconstruction argued in 1919 for the need for adult learning to be both universal and lifelong (Gestrelius, 1979). "Adult education," it said, "is not a luxury for a limited, exclusive group of specially selected individuals, but an integral part of social life. For this very reason," it argued, "adult education should be made available for all as well as be made permanent" (Suchodolski, 1976, p. 58). The report cited the country's economic

recovery and the rights and responsibilities of democratic citizenship as its central arguments (Jessup, 1969, p. 18). In 1929, Basil Yeaxlee (1929), the chief political mentor of the committee, published a pioneering book on lifelong education, and a center for continuing education was founded at the University of Minnesota in 1934 that worked with the principle that "education should not come as a break in people's lives, in the form of recapitulation and continuation courses," but should "be considered as being permanently in progress" and that it should include not just formal courses but also "more occasional and informal forms of learning which can occur at work and in leisure time in conversation, discussions, reading newspapers, listening to the radio, watching television, etc." (Gestrelius, 1979, p. 278).

We find further arguments for lifelong education in Sir Richard Livingstone's 1943 book *Education for a World Adrift* (Jessup, 1969, p. 17) and from Alfred North Whitehead, who argued in 1947 that the rate of change in our times necessitated lifelong education for all. Later, the idea received the backing of international organizations such as the United Nations Educational, Scientific and Cultural Organization and the Organisation for Economic Co-operation and Development in the 1960s under the names of *lifelong education* and *recurrent education*, respectively, while elsewhere, it was referred to as further and continuing education and *education permanente* (Dave, 1976, p. 15).

Institutionalization of the Idea

While these approaches bring to the history of the idea of lifelong education a "concentrated and systematic attack on the question of how to foster and support lifelong learning," they do not by themselves bring clarity (Cropley, 1979, p. 9). The decisive move toward institutionalizing lifelong education, rendering it a strategic goal for collective social and political action addressed through the creation of appropriate policies, structures, and institutions, was triggered by the growing realization that accelerating change brought by the sustained impetus of scientific and technological revolution was posing serious challenges for societies that their schooling systems were ill-equipped to meet. It was also realized that "innovations which formerly called for sustained effort by several generations are now accomplished by one only" and that "from decade to decade man is faced with a physical, intellectual and moral universe so vastly transformed that yesterday's interpretation no longer meets the need" (Lengrand, 1975, p. 26). As one source colorfully expressed this latter thought, "*For the first time in history education is now engaged in preparing men for a type of society which does not yet exist*" (Faure et al., 1972, p. 13). Among the "challenges" were those posed by the new information technology, rapid demographic expansion, new political realities, substantially increased leisure time, crises in patterns of life and relationships, and in ideologies (Lengrand, 1975). Lifelong education was identified as the relevant strategic response to them. However, as Huey B. Long pointed out, the concept itself was still largely anomalous, "While the labels of adult education, career education, continuing education, *education permanente*, lifelong education and lifelong learning are sometimes used interchangeably they are also frequently used to describe something quite different" (Long, 1974, p. 4).

The Lifelong Education Movement

A certain consistency existed, however, in the literature of a lifelong education movement that grew around the United Nations Educational, Scientific and Cultural Organization, with the following distinctive features:

1. A leftist program for social and political change encapsulated in the notion of a learning society
2. The redefinition of schooling as a stage of lifelong education and an aspect of a learning society
3. The inclusion of informal learning as a significant element of lifelong education strategies and of a learning society

The movement identified John Dewey as its point of reference (see Cross-Durant, 1984; Wain, 1987). Dewey wrote in 1916,

> Since life means growth a living creature lives as truly and positively at one stage as at another, with the same intrinsic fullness and the same absolute claims. Hence education means the enterprise of supplying the conditions which insure growth, or adequacy of life, irrespective of age. (Dewey, 1916/1966, p. 51)

and that

> the inclination to learn from life itself and to make the conditions of life such that all will learn in the process of living is the finest product of schooling. (Dewey, 1916/1966, p. 51)

The movement died a "natural" death in the late 1980s, while the term *lifelong education* has been superseded in our time with the less contested "lifelong learning" (see Wain, 1987, 2004).

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See also Comenius, Johann Amos; Dewey, John; Education, Concept of

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Linguistic Diversity

Many of today's languages are endangered. Maintaining all the languages in the world is important not only for several areas of research but also for the future of the planet too: Much of the most sophisticated knowledge about how to live sustainably, in balance with the ecosystem, is encoded in them. Linguistic human rights, especially in education, are one necessary prerequisite for the maintenance of linguistic diversity (LD). This entry defines linguistic diversity, discussing how it has been measured and how it is related to biodiversity. It examines issues related to educational policies that may enhance Indigenous and minority/minoritized languages and cultures.

Linguistic diversity has been defined as "the range of variation exhibited by human languages," or as "the variety and richness of languages in human societies." *The Ethnologue: Languages of the World*, a reference work (Lewis, Simons, & Fennig, 2013) and website that at present provides the best list of the world's languages, reports that there are 7,105 "living languages." Of these, 2,146 are in Africa, 1,060 in the Americas, 2,304 in Asia, 284 in Europe, and 1,311 in the Pacific. It lists only 126 sign languages, native languages of the Deaf—there are many more. Eight languages (0.1%) have more than 100 million first-language speakers, 77 (1.1%) between 10 and 100 million, and 308 (4.3%) between 1 and 10 million; fewer than 200 languages have more than 3 million first-language speakers. Thus, the languages that make up most of the world's LD are small in terms of number of speakers.

The concept of "a language" is far from clear. There are, and cannot be, any precise definitions of what a language is, as opposed to dialects, sociolects, or other variants. One cannot differentiate between "languages" and "dialects" on linguistic grounds—it is always a political decision. Danish, Norwegian, and Swedish are structurally close to each other, and the speakers can understand each other to a large extent—still they are seen as different languages. What was two decades ago one language—Serbocroatian—is now officially Serbian, Croatian, and Bosnian. The *Ethnologue* lists 41,186 alternate names and dialect names for 7,413 languages.

LD can be measured in various ways; the most diverse countries are claimed to be the ones with the largest numbers of languages. With this measure, Papua New Guinea, with 836 languages, would be the world's most linguistically diverse country, followed by Indonesia (707), Nigeria (529), India (454), the United States (420), China (301), Mexico (288), Cameroon (281), Australia (245), Brazil (228), Democratic Republic of the Congo (215), Philippines (192),

Canada (173), Malaysia (146), Myanmar/Burma (146), the Russian Federation (137), Chad (132), Tanzania (127), Nepal (122), Vanuatu (116), and Vietnam (111) (http://www.ethnologue.com/statistics/country).

Greenberg's diversity index measures the probability that any two people of the country selected at random would have different mother tongues. This gives a different order for the highest- and lowest-diversity countries. Papua New Guinea is still the top country, followed by Vanuatu, Cameroon, Solomon Islands, and Central African Republic (see table 8 on the website; http://www.ethnologue.com/ethno_docs/distribution.asp?by=country#7).

Many languages are seriously threatened. Most in, for instance, Australia, Canada, and the United States have extremely few speakers and will, unless very drastic measures are taken immediately, not have any speakers by the year 2100. Minimally half of the world's spoken languages, and, in more pessimistic but realistic estimates, 90% to 95% of them will be extinct or very seriously threatened (no longer learned or spoken by children) by the year 2100.

UNESCO's (United Nations Educational, Scientific and Cultural Organization) Interactive Atlas of the World's Languages in Danger divides the 2,474 endangered languages into five categories: (1) vulnerable (601 languages), (2) definitely endangered (648), (3) severely endangered (526), (4) critically endangered (576), and (5) extinct (231). The most important criterion is intergenerational transmission, that is, whether most speakers are elders or whether the languages are still learned by children.

David Harmon and Jonathan Loh, who developed a quantitative measure of trends in LD (Harmon & Loh, 2010), concluded that globally LD has declined by 20% from 1970 to 2005. Of the world's six regions, the sharpest declines by far in LD have occurred in the Americas and Australia. The top 16 languages spoken worldwide increased their share of speakers among the world's population from 45% in 1970 to some 57% in 2005.

Many linguists support the maintenance of LD because the more languages we have, the more data and the more varied linguistic data we can access. They study specific characteristics of particular languages, comparing what building blocks languages utilize and how these can be put together. This reflects human resources and ways of functioning that cognitive linguists and psychologists are interested in. Debates about linguistic universals ask what all languages, and our human language faculty, might have in common; and whether and how human languages differ from other communication systems, including those of other animals. Researchers also use this knowledge to develop machine–human interaction and construct automatic translation programs. Many also see each language as reflecting the unique worldview of the people who have developed it. Sign language researchers have shown that sign language users, especially those in the Deaf community, develop capacities that hearing people have not developed, for instance in relation to their vision. For all this research, LD is a prerequisite.

Researchers from other areas are also interested in LD. The genus *Homo* may have been on earth for up to seven million years. *Homo habilis* may have been able to speak in some fashion even two million years ago, but genetic science suggests that all people living today (*Homo sapiens*) are descended from a small population living in Africa some 150,000 years ago. Our present-day LD reflects this. Many find it puzzling that so much LD has been able to develop in such a short period. There must have been powerful diversifying mechanisms at work—but these have worked unevenly. If Britain had the same ratio of spoken languages to inhabitants as Cameroon, or the United States the same as Papua New Guinea, Britain would have 1,250 native languages and the United States nearly 60,000. Western countries are indeed linguistically poor: Europe has only 239 living spoken languages. Just as Europe is both genetically and biologically the world's most homogeneous part, Europe is also the poorest one in LD, provided that we discount recent immigrants. Geneticists, archaeologists, anthropologists, geographers, historians, and others compare the differences between languages, the migration patterns suggested by linguistic data, and so on, with patterns and dates suggested by results in their own areas of research. Often, these diverse genetic, archaeological, and linguistic data agree, while radiocarbon dating sometimes may give a different result. Several multidisciplinary areas of study are emerging from this need to consider theories and data from what was formerly seen as several separate disciplines. For all these new disciplines, the study of LD may yield central or at least complementary insights. Thus, transdisciplinarity is enabled by the maintenance of LD.

A central reason for the importance of the maintenance of LD is that there is a correlational relationship, and most probably also a causal one, between biodiversity and linguistic (and cultural) diversity. Where there is a high degree of biodiversity (many

species of plants, animals, and other biological organisms), there are usually also many languages, and vice versa: There are few languages in biodiversity-wise poor areas. Traditional ecological knowledge and practices often make Indigenous/tribal peoples, minorities, and local communities highly skilled and respectful stewards of the ecosystems in greatest need of protection. Local, minority, and Indigenous languages are repositories and means of transmission of this knowledge and the related social behaviors, practices, and innovations. The relationship between diversities is most probably also causal, a coevolution, where biodiversity in the various ecosystems and humans through their languages and cultures have mutually influenced each other (see Harmon & Loh, 2010). The various ways that different peoples influence their environments were and are filtered through their cultural patterns, including their languages. Much of the knowledge about (necessary) elements of integrated ecosystems and the relations between these elements and about how to maintain biodiversity is encoded in small Indigenous/tribal and local languages. To maintain the detailed knowledge encoded in small Indigenous/tribal languages about the complexities of biodiversity and how to manage ecosystems sustainably, the languages and cultures need to have better conditions. They need to be transmitted from one generation to the next, in families and through schools. If global LD is not to suffer irreparable attrition as a result of today's assimilationist education, major changes are needed in educational language policy (see Skutnabb-Kangas & Dunbar, 2010), showing that most Indigenous education fulfills the criteria for genocide in two of the five definitions of genocide in the United Nations' 1948 International Convention on the Prevention and Punishment of the Crime of Genocide. Subtractive dominant-language-medium education has been shown by solid empirical research to be educationally the worst alternative for Indigenous, tribal, minority, and minoritized children (any arguments promoting this kind of education are political, not scientific); in addition, it leads to diminishing LD. From this perspective, a central necessary change, also advocated by UNESCO, is mother tongue–based multilingual education that respects linguistic human rights.

But the disappearance of languages from the whole world is today continuing at an alarming pace. External forces are dispossessing traditional peoples of their lands, resources, and lifestyles; forcing them to migrate or subsist in highly degraded environments; crushing their cultural traditions or ability to maintain them; or coercing them into linguistic assimilation and abandonment of ancestral languages. People who lose their linguistic and cultural identity may lose an essential element in a social process that commonly teaches respect for nature and understanding of the natural environment and its processes. Forcing this cultural and linguistic conversion on Indigenous and other traditional peoples not only violates their human rights but also undermines the health of the world's ecosystems and the goals of nature conservation. It can be argued that in any crisis, uniformity is the worst way to respond; diversity is resilience. This includes LD.

Tove Skutnabb-Kangas

See also Diversity; Identity and Identity Politics; Multiculturalism; Rights: Children, Parents, and Community

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Literacy and the New Literacy Studies

New Literacy Studies (NLS) is a research approach that has emerged and played out in the past few decades, focusing on the historical, cultural, social,

cognitive, and institutional dimensions of reading and writing. The approach takes literacy out of the mind as a matter for psychology alone, and out of the classroom as simply a matter of instruction, turning away, at first, from a preoccupation with pedagogy and curriculum in educational settings, and away from acquisition theories of literacy, toward use theories (or accounts of what people do with written communication and what texts do in social organization). When NLS researchers turn back to questions of instruction and acquisition in education institutions, they do so with a sense of the social dimensions of acquisition and learning that go beyond those of individual minds acquiring "basic skills." NLS researchers claim that literacy always happens as part of particular social practices that are shaped by social institutions and power relations among and between groups of people, with the result that some literacy practices are more dominant, visible, and influential than others in social settings where unequal contests over resources and power take place. This entry discusses the evolution of NLS as the study of literacy as situated social practices, through research in a variety of contexts, along with attention to the growing emphasis on global interactivity resulting from new forms of electronic media that allow "real time" communication across spaces and settings.

NLS researchers take it that we can't make sense of or intervene in people's experiences of literacy if we see literacy as "simply reading and writing," in the sense of the activity being some kind of mental process to do with encoding and decoding print, which is acquired as a tool, skill, or technology that, once acquired, can be applied to any task that requires reading or writing. Instead, the NLS approach sees the ways in which people use and value reading and writing as themselves rooted in conceptions of knowledge, identity, and being, varying across groups of people as well as in different settings, and capable of change over time. Reading and writing are always about reading and writing something, in specific ways as part of a specific activity. When people engage in particular activities, they draw on background know-how, habits, and dispositions that often are not based on or explicitly communicated as beliefs or rules, are passed on through interaction and activity, are acquired and not explicitly learned or taught, but which nonetheless characterize our interactions with things and people. How people read and write, what they read and write, what effects their reading and writing have, and whether their skills and practices transfer well from one setting to another (e.g., for children, from home to school and back) depend in very important ways on what they are "up to" when they are reading and/or writing and on how these practices are socially valued or discounted.

The turn toward explanatory social theory of various kinds in the study of literacy dates back to the 1980s and reflects researchers' openness to social science influences from linguistics, historical studies, anthropology, psychology, philosophy, and sociology, including, more specifically, ethnomethodology, conversation analysis, and the ethnography of speaking from sociolinguistics; sociohistorical psychology and approaches to the study of cognition as situated and social; cultural models theory; cognitive linguistics; the sociology of science and technology studies; modern composition theory; modern developments in sociology and poststructuralist and postmodern social theory, centered on theories of "discourse" and "social practices," particularly the influences of Pierre Bourdieu, Michel Foucault, Jacques Derrida, and Ludwig Wittgenstein.

First-Generation NLS

Key influences in the first phase of NLS in the early 1980s came from research by sociocultural psychologists, sociolinguists, and anthropologists. Sylvia Scribner and Michael Cole (*The Psychology of Literacy*, 1981) studied the cognitive consequences of literacy in a setting, Liberia, where three different scripts and literacy traditions were present, including school literacy in English, a religious literacy in Arabic script, and an indigenous script used by some individuals for letter writing and record keeping in the indigenous language. Because there were these three scripts with different histories and uses, the researchers were able to distinguish between "school effects" and "literacy effects." They found that cognitive skills associated with literacy varied dramatically depending on whether people's literacy experiences were school, religious, or community activities. They argued that literacy was always constituted within socially organized practices. The nature of these practices, including the scripts, languages, and media used, would determine the balance of skills and the consequences associated with literacy. Rather than seeing literacy as a set of portable, decontextualized information processing skills that individuals apply, this research reframed literacy as a set of socially organized practices (conceptually

parallel to religious practices, child-rearing practices, etc.) in which individuals engage.

Sociolinguistic research into literacy, language, and learning in southeastern communities in the United States by Shirley Heath in *Ways With Words* (1983) questioned why Black students were failing in the recently desegregated schools, and she contrasted their language and literacy socialization in community settings with children of White mill workers in a neighboring community as well as with middle-class children in the same town. Heath's work made the case that there are multiple ways of taking and making meaning in reading and writing practices, and the selection of one of those ways as the standard, or as normative in school and in formal institutions, means that, for people whose ways are different from the norm, there is an ongoing struggle to accommodate to those of the standard. In her study of literacy in these settings, Heath focused empirically on literacy events, which she described as the occasions in which written language was integral to the nature of participants' interactions and their interpretive processes and strategies. Literacy events were characterized by particular blends of text, talk, distribution of action, and turn taking in communication that was community specific and consistent with patterns of child rearing that contrasted markedly across the three communities. She rejected the often made emphasis on a distinction between literacy and orality because it placed undue importance on the medium of communication at the expense of its social purpose. What counted in effective communication was not a generalized competence (e.g., being able to "speak English" or "code and decode letters") but a situated, communicative competence embedded in acquired, "deep" cultural knowledge and learned models of using situated language in specific ways drawing on varying histories and different rules for socially interacting, for sharing knowledge and opinions, and for reading and writing.

Brian Street's anthropological research in an Iranian village, presented in *Literacy in Theory and Practice* (1984), initiated an attack against previously influential "great divide" theories of literacy that claimed fundamental and far-reaching cognitive differences between literate and nonliterate societies and individuals and that treated literacy as a neutral technology with a singular, predictable impact on the individual and society. Rather, literacy is a social process, in which particular socially constructed technologies are used within particular institutional frameworks for specific social purposes. Street drew an influential distinction between what he called the autonomous model of literacy, associated with "great divide" theories, and an ideological model of literacy. The ostensibly politically "neutral" autonomous model of literacy relies on a rhetoric of individual and social developmentalism that celebrates certain mainstream Western literacy practices as universally normative.

Street's ideological model joined a social analysis of power relations as well as language and literacy ideologies to an orientation to the cultural production of meaning and values in particular settings. He showed that there were no empirical grounds for assuming an automatic, causal, or universal relationship between literacy and social development of various kinds; rather, different histories of exposure to certain ways of communicating, valuing, reading, and writing yielded different forms of reading and writing as practice. Such conceptions and practices of reading and writing evolve and are enacted in contexts involving particular relations and structures of power, values, and beliefs. The consequences that ensue from literacy are therefore neither "neutral" nor effects of literacy on its own but are variable, depending on the nature of the myriad literacy activities that play out in social life and that are integral components of larger social practices. The "literacy bits" cannot be studied as if they have effects of their own, separate from the larger social "goings-on" in which they are embedded. Street's work pointed to how literacy was "taken hold of" at a local level, to fit in and add to the existing communicative repertoire of indigenous people, rather than to change them or "modernize" them, as the "great divide" theorists had claimed would happen. His view was supported by detailed research studies by other NLS researchers in places such as Papua New Guinea and on a South Pacific atoll.

Ron and Suzanne Scollon's research (*Narrative, Literacy and Face in Interethnic Communication*, 1981) among the Athabaskan people of Canada and Alaska similarly made a related point that schooling as a special practice is not a neutral site. To take on the "essayist literacy" of Western schooling, Athabaskans are faced with challenges to their sense of identity and being, requiring them for example to take on ways of relating to intimates and nonintimates that differ from those with which they had grown up. In contributing to this debate, James Gee, in *Social Linguistics and Literacies* (1990), drew an influential distinction between the "primary

Discourse" and "secondary Discourses," to distinguish between the ways of being, knowing, valuing, acting, speaking, and attitudes to writing that children inherited in their home environments and the secondary Discourses of social institutions, such as schools, that might be in accord or at variance with different groups of children's primary Discourses. Learning to read and write as part of secondary Discourses required new forms of socialization for socially marginal children to those they brought with them to school.

Second-Generation NLS

A second generation of NLS in the 1990s and later, in a number of studies from Asia, Africa, United Kingdom, South and North America, and Australia, drew on the methodologies and theoretical constructs of those earlier studies, concentrating on close accounts of how reading and writing were embedded in social practices in local contexts. David Barton and Mary Hamilton (*Local Literacies*, 1998), as one influential example, observed community members in Lancaster, England, and asked them to reflect on their literacy practices. These researchers pointed out, with regard to Heath's work, that, important as family practices are for children's literacy development, these practices take place in larger community contexts that influence family activities. The researchers drew a distinction between dominant (institutionalized) and vernacular (self-generated, everyday) literacies. Vernacular knowledge was seen to be local, procedural, and minutely detailed. Literacy was not an explicit focus of everyday activities, but literacy elements were an implicit part of most activities and were used to get things done, including learning a martial art, paying the bills, organizing a musical event, or finding out about local news. When questioned about them, people did not always regard their vernacular literacies as real reading or real writing as they were embedded in other activities, such as shopping, writing to a relative, paying an invoice, or applying for something or other, and did not carry the same status as more conventionally recognized literacy activities such as the reading of literature or "school literacy." Indeed, some vernacular literacies were deliberately hidden, because they were private or oppositional, including secret notes and letters of love, comics, and fanzines. The researchers concluded that much talk in everyday life that they studied was in fact talk about texts or shaped by documents or textual practices. They pointed to the extent to which texts change social interaction in ways that had not formerly been widely noticed, in sociolinguistics or in sociological research, and emphasized that writing and writing artifacts were very much part of the "glue" of social life.

Mike Baynham's (1995), *Literacy Practices*, similarly examined the way that Moroccan migrants in London shifted between the communicative modes of text and talk in social interaction among themselves, while assisting each other with language and literacy challenges. Bilingual talk around monolingual text in school and community settings is, indeed, characteristic of most multilingual social contexts. For example, Gregory and Williams's *City Literacies* (2000), a study of literacy based on long-term ethnographic engagement with the Bangladeshi settlement in East London, United Kingdom, was notable for its emphasis on the interaction of home and school literacies in the learning lives of children.

Third-Generation NLS

More recent NLS research demonstrates a significant diversification of the range of topics and issues addressed. For example, there has been added attention to the media and modes of literacy, *media* referring to the material or "stuff" of literacy engagements, the artifacts and paraphernalia such as books, notices, walls, mobile phones, blackboards, and "smartboards"; modes referring to the various means of presentation, which, besides writing, include speech, image, gesture, sound, posture, combinations of these, and, also, silence. Such research attention is very timely, given the proliferation of multimedia writing that has accompanied the dramatic explosion of digital, electronic communication by way of computers, phones, tablets, and other devices linked to the Internet and using e-mail, websites, Skype, Twitter, Facebook, YouTube, and other communication and writing resources. As is well known, the technological developments associated with electronic media include the linking up of huge numbers of electronic devices across continents, allowing their users to communicate without substantial time lags, or in "real time." This dramatic increase in global interactivity has led to an increase in the study of translocal and transcontextual literacy activities and practices. It is apparent that literacy is not just "placed" (or practiced locally) but is also mobile, moving electronically as well as with people, across borders and locales. The ways that

children and youths are encountering digital writing, design, and meaning making in nonschool contexts, as well as what this means for classroom engagements, is a major theme in recent NLS.

Attention to social diversity is also an increasing research focus, reflecting the dramatic increase in global interactivity in recent decades and changing the idea of local communities as homogeneous sites for language, literacy, and discourse. Migrants and mobile persons are a striking feature of the globalized world and raise particular questions for literacy, language, and education. While school-based standardized testing often labels youths from minority backgrounds as failing or at risk, NLS researchers examine the multilingual resources of both youths and adults from minority backgrounds, and the transnational or cross-border practices they engage in, involving both print and digital literacies. While classrooms have mostly stuck to maintaining clear borders between the languages and learnings of school and the out-of-school languages and literacy practices of bilingual youths, researchers such as Ofelia Garcia and Suresh Canagarajah have called for "translanguaging," and situated literacies in the classroom, based on the argument that all literacy pedagogical approaches should be contextualized and start with the language and literacy resources that children bring to school. As they describe it, translanguaging is an approach to language and literacy that encourages teachers to foster the use of whatever resources are at hand, across languages, rather than to insist on maintaining strict boundaries between designated languages in their uses, in talk and in writing.

Mastin Prinsloo

See also Capital: Cultural, Symbolic, and Social; Discourse Analysis; Distributed Cognition; Linguistic Diversity; Vygotsky, Lev

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Little Commonwealth: Homer Lane

An educationist and psychoanalyst, Homer Lane (1875–1925) became a leading figure in the New Education movement in the United Kingdom during the years preceding, and immediately following, the First World War. For some, he was a charismatic figure whose ideas offered the promise of educational transformation and who died a martyr. In the eyes of others, he was a dubious character who was guilty of infracting both social conventions and the law.

Born in Connecticut, after leaving school, he got a job delivering groceries. While so doing, a doctor sponsored him to take a course in Sloyd, at the Sloyd Training College at Boston. This was a system of manual education based on wood carving with origins in the work of the German educationist Friedrich Froebel. Advocates of Sloyd subscribed to the gospel of labor, the notion that manual work was redemptive and was preferable to learning from books. The doctor subsequently opened a high school, and Lane taught a Sloyd class there from 1900.

Following a post teaching in Detroit, Lane became superintendent of playgrounds in Detroit, and in 1907, he became director of the Solvay Guild, a type of settlement house. While still teaching in Detroit, he was invited to teach manual training in the Hannah Schloss Memorial Building, a Jewish settlement house. There, he introduced self-government to

the class by forming a club that organized activities of various sorts. Through his connection to a member of the committee that ran the Hannah Schloss, Lane was appointed in 1907 as superintendent to The Boy's Home and d'Arcampbell Association, a probation hostel for school-age delinquents, which—due to his efforts—was moved to a farm in a rural setting where it was first renamed the Ford and subsequently the Boy's Republic.

By this stage in his career, Lane had experience of, and had formulated the main elements of, the education philosophy for which he later became renowned. These were developed in his work with delinquents, and principal among them was the belief that instead of external coercion, they were to be educated by a version of Jean-Jacques Rousseau's discipline of consequences. Lane arranged experiences for the boys that helped them adopt, of their own volition, the line of conduct he wished them to follow. The name adopted by the last institution in which he worked in the United States, the Boy's Republic, signifies that to a large extent the structured experiences Lane organized could be subsumed under the label of self-government. The Boy's Republic had a constitution complete with legislative, executive, and judicial branches. Added to self-government was the provision of manual labor of a rural and agricultural nature, which formed another key element in Lane's educational thought. This approach was by no means unique either in Europe or in the United States during this period. The affinities between the practices of the Junior Republic founded by William Reuben "Daddy" George (1866–1936) and Lane's were several. Curiously, Lane claimed not to have heard of George's work before he established his Boy's Republic, despite the existence of several Junior Republics based on George's model and a book written by George outlining his practices.

Attracted by accounts of George's work, an English aristocrat, George Montagu (1874–1962), who wanted to establish a similar institution in England, visited George's Junior Republic in 1911 and the Boy's Republic also. In 1913, the committee that had been established to oversee Montagu's institution appointed Lane to head it; it catered mainly for delinquent boys and girls, and was located in a rural setting in Dorset in Southern England, and it bore the name "the Little Commonwealth." Lane was to remain in charge of the Little Commonwealth until 1918, when allegations were made by two of the girls there that Lane had had "immoral relations" with them. Gradually, some members of the Little Commonwealth committee lost faith in Lane, and the accusations of misconduct in an already hostile social and economic environment was sufficient to bring about its closure.

During the years when Lane was superintendent at the Little Commonwealth, he gave a number of talks on his methods and found an attentive audience in the New Education movement, which was just taking organizational form when he arrived in England. Among the organizations that were part of the movement were the Montessori Society and the New Ideals in Education organization, out of which the former emerged, but Lane did not publish anything substantial on his educational beliefs and practices during his lifetime. An edited collection of talks he gave after the closure of the Little Commonwealth was published posthumously in 1928 as *Talks to Parents and Teachers* and the other main source of his educational thought is an account titled, *Homer Lane and the Little Commonwealth* (1928) written by Elsie Bazeley, who worked there for two years.

In addition to the ideas formulated in the early stage of his career, Lane added coeducation, though he admitted it was difficult to manage especially during periods of recreation, which he held should not be organized. Few schools in England, let alone reformatories, were coeducational at this time, so this was a major innovation. In line with Johann Heinrich Pestalozzi's thought, with which he was familiar, Lane stressed that his approach was based on love for the children and adolescents and that "being on their side" was at its center. Rather than view the residents of the Little Commonwealth as citizens, Lane attempted to create the affective relationships more characteristic of a family than a self-governing community. Although his methods were widely hailed as successful in reforming delinquents, he failed to persuade many of the desirability of compulsory schooling and the need for religious education.

During the course of the investigations into the accusations against him of sexual impropriety in 1918, Lane presented a paper to the Little Commonwealth committee in which he outlined the psychological theory on which his educational practices were based. This was an idiosyncratic reading of Sigmund Freud that led him to claim that he was a pioneer in psychoanalytic education and also to present a disquisition on the role of the unconscious, the libido, and the process of sublimation.

In this paper, he claimed that he had been in error in thinking that the transference of the pupils' libidos to the Commonwealth community could occur without them first being transferred to him. That the latter had occurred was the reason he gave for the damaging allegations against him.

Following the closure of the Little Commonwealth, Lane practiced as a psychoanalytic therapist. The talks he gave in this period that were published focused mainly on child development together with some reflections on his experiences at the Little Commonwealth under the heading, "On the Self-Determination of Little People." A persistent theme throughout this text is the role and value of play in child development.

In 1925, Lane was tried for breaking the law regarding the registration of aliens. At his trial, evidence was presented of his having had sexual relations with some of his "pupils," as his patients were called, and Lane agreed to leave the country. He died in Paris a few months later regarded by many as a Christlike figure who had been hounded to death by the British authorities. His image as a charismatic martyr was mainly perpetuated in the New Education Movement in private schools by radicals such as A. S. Neill, the founder of Summerhill, and by J. H. Simpson who introduced self-government while he was head of Rendcomb College.

Kevin J. Brehony

See also Freud, Sigmund; Froebel, Friedrich; Neill, A. S., and Summerhill; Pestalozzi, Johann H.; Progressive Education and Its Critics; Rousseau, Jean-Jacques

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Locke, John

The English philosopher John Locke (1632–1704) published the modestly titled *Some Thoughts Concerning Education* in 1693. The text, Locke's most obvious contribution to the philosophy of education, was based on letters written by Locke in 1684 to his friends Mr. and Mrs. Edward Clark, who had requested his advice on raising their young son. Locke was by then an experienced tutor and was able to provide a great deal of practical advice in the physical and moral care of the child, in addition to suggesting a suitable curriculum. *Thoughts* focuses for the most part on the physical care and moral development of the child and includes an academic curriculum almost as an afterthought. The text, in keeping with its origin, focuses on one particular child, a child who was to become a gentleman. It is therefore best understood as a particular application of a general educational theory that is established not only in *Thoughts* but also in two other texts written in a very different style. One of these is the *Essay Concerning Human Understanding*, in which Locke sets out to uncover the origin of our knowledge and ideas. The other text, originally intended as the longest chapter of a revision of the *Essay* but published posthumously, is the *Conduct of the Understanding*. The *Conduct* acts as a link between the other two, guiding an autodidact adult in how to improve both reasoning and ability to make informed judgments. This entry traces Lockean educational theory through these three texts.

Essay Concerning Human Understanding

In the *Essay Concerning Human Understanding*, Locke rejects the concept of innate ideas and seeks to explain how it is possible for humans to gain all the knowledge they have purely through empirical experiences of the world. People mistakenly believe certain ideas to be innate, simply because they cannot remember learning them. They therefore conclude that God must have imprinted these ideas on their minds and regard them as unquestionably true. In fact, Locke famously claims, children are born *tabula rasa* (blank slates), and all of our knowledge is traceable to our experiences. There is no "simple idea" in the mind ("yellow," "hardness," "pain," etc.) that

has not had its origin in experience; complex ideas, according to Locke, are formed by the combination of simple ideas.

However, it is best not to regard a Lockean education primarily as an attempt to impart knowledge, since Locke grants the honorific "knowledge" very sparingly. *Intuitive* knowledge is the perception of the immediate agreement or disagreement of ideas; for example, that black is not white. This is the most certain and clearest form of knowledge. *Demonstrative* knowledge is the perception of the agreement or disagreement of ideas, but via one or more intervening proofs, as may happen with a mathematical equation. The archetypal form of demonstrative knowledge is mathematics. Mathematics, therefore has an important role to play in the child's curriculum. In the *Conduct*, Locke also recommends that adults study mathematics to improve their reasoning skills.

The vast majority of what we think of as knowledge Locke would refer to as "judgment." Judgment consists in assessing the probability of a proposition's being true. So, for example, a mathematician may have demonstrative knowledge that the angles of a triangle add up to 180 degrees. A student who does not understand the proof but believes the proposition to be true based on the mathematician's expertise does not have knowledge but has instead made a judgment. In this instance, Locke might encourage the student to understand the proof for himself or herself and thus gain knowledge. However, this will not be possible in other fields of enquiry. Subjects such as history, geography, and science require their students to assess the likelihood of propositions being true. A large part of a Lockean education therefore consists not in increasing the stock of knowledge of students but in developing their judgment.

Locke argues that much of our understanding is formed by the connections between ideas in our minds, or rather the *associations* between them. Some associations between ideas are "natural": They reflect some connection between the ideas, such as *left* and *right*; or they reflect some relationship in the natural world, such as that between fire and heat. Other connections between ideas arise through custom. Often, this can be useful. For example, a musician associates a series of notes in a song and is therefore better able to remember them and to perform well. However, "unnatural" connections between ideas can also be damaging. If a child, under the influence of his nurse, comes to associate darkness with goblins and sprites, he may become permanently afraid of the dark. There are several applications for this in a Lockean education. First, the curriculum can be arranged so that the "natural" associations between ideas are as easy to form as possible. Second, care must be taken that children should form no negative associations with education, as might occur if they are beaten for mistakes or if they take on tasks too difficult for them to complete.

Some Thoughts Concerning Education

Locke's background as a physician qualified him to recommend measures to protect a child's health, in addition to ensuring moral development and academic progress. Neither sons nor daughters are to be cosseted if they are to have good health. Children are not to be kept too warm; clothes are to be thin, as are shoes—the latter with the intention of letting in water. Children who are used to getting their feet wet will be unlikely to become ill as a result of an accidental wetting of the feet. Beds must not be too soft. Food is to be plain and simple, based more on bread than on meat (which should not be tasted until the age of three, and then no more than once per day). Locke also recommends that certain (overly sweet) fruits are to be avoided and that children should not be permitted alcohol. The child has appetites for unhealthy foods and excessive comforts, which could be damaging to health. These appetites must be controlled, and the child must become used to controlling them.

Locke presents this regimen as having benefits, not only to health but more important to the child's character. A child who is used to mastering his own desires will become a virtuous adult. As the child grows and becomes more rational, the parents should become progressively less strict, until their relationship with the child is more like that of a friend. Until then, however, the child is answerable to the authority of the parents—it is the child's duty to obey, and the duty of the parents to enforce obedience.

It is, however, important that parents are very sparing in their use of corporal punishment. Locke was frequently beaten as a child, as was the usual practice at Westminster School, and is clearly passionate in his view that such punishment is damaging and ineffective as a means to educate children either morally or academically. Strong associations between ideas, particularly those which are laid in

childhood, are difficult to reverse. Using pain to punish errors in academic work will cause the child to associate such work with physical pain and become more averse to it. More insidiously, the child will come to associate *punishment* with physical pain, when it would be far preferable for them to associate punishment with shame or disgrace. The only exception, where physical punishment must be used, is if the child is deliberately disobedient toward, or lies to, a parent. Then, he is to be punished until he obeys, even if it takes several whippings. This is to avoid a loss of parental authority that would ultimately damage the child.

Besides ensuring that the child is healthy and obedient, it is the parents' concern to settle their child into good habits that will continue into adulthood. Locke argues that the development of good manners and good breeding is best achieved by keeping children exclusively in the company of good people whom children can imitate. As much as possible, the child is to remain in his parents' company, kept away from the company of servants, and educated at home, away from the unpredictable influence of schoolboys. The child's earliest education, then, lies in the imitation of his parents and tutor.

The first *academic* education a child embarks on is learning to read. Locke emphasizes that the child must not regard reading as a task pushed on him. Locke believes it possible that children may be taught to read without perceiving the process as anything but a game. This is far preferable to the child's being forced to the activity of reading, and coming to associate it with feelings of boredom or frustration, which may affect the child's attitudes to learning later in life.

Once the child is fluent in the English language, he is to begin French, gaining fluency rapidly by speaking nothing but French with his tutor. A year or two later, he will proceed to Latin, which is to be taught in the same way. The tutor is to teach the child's other subjects (arithmetic, geography, chronology, history, and geometry) in French or in Latin, thus teaching the language and the subject simultaneously. To preserve the child's fluency in English, Locke recommends that the child's mother or some other suitable person has the child read English aloud to them every day, suggesting that passages from scripture would be suitable for the purpose. Locke allows, however, that the child should learn to translate Latin into English in order to exercise his writing skills.

Locke's approach is distinctive in that it does not involve the teaching of grammar, even in the case of Latin. Locke regards the study of grammar as difficult and unpleasant for children and unnecessary to achieve fluency. Additionally, Locke considers that particle words, such as *but*, are impossible to translate, as the equivalents in French and Latin (*mais* and *sed*) have different collections of significations. Therefore, grammar, although an interesting study for adults, is inappropriate for children.

As the fuller curriculum is introduced, geography is the recommended starting point, since its study involves simply observation and memory. Then arithmetic is introduced, as the easiest form of abstract reasoning. Once the child understands addition and subtraction, his skills are immediately applied back to geography by learning longitude and latitude, followed by map reading. The constellations are then learned, both with reference to the maps and to the night sky; and the Copernican system is explained. Geometry is studied once the child has the familiarity with the globes described above. The recommended text is the first six books of Euclid. Locke does not explicitly state, but it would seem to follow, that the child's education thus far has prepared the child for a more abstract study of shapes. Chronology is taught alongside geography, and before history, so that the child is first familiar with the sequence of different eras, and later adds in richer historical details.

In summary, mathematics is given a key role, maximizing the child's (necessarily meager) stock of demonstrative knowledge. Geography is granted a corresponding role, and the curriculum zigzags between subjects that rely on empirical investigation (primarily geography) and those that rely on reflection (mathematics), encouraging the development of abstract ideas. With every new addition to the curriculum, Locke encourages the tutor to

> give them first one simple idea, and see that they take it right, and perfectly comprehend it before you go any farther, and then add some other simple idea which lies next in your way to what you aim at, and so proceeding by gentle and insensible steps, children without confusion and amazement will have their understandings opened and their thoughts extended farther than could have been expected. (*Some Thoughts Concerning Education*, § 180)

The ideas presented are to be as closely related to one another as possible, so that the child can easily comprehend the relations between them in as few steps as possible. It is therefore unsurprising

that the Lockean curriculum does not include the study of syllogistic reasoning, despite its being a commonplace part of school curricula at the time. Locke disapproves of its use on the grounds that it adds unnecessary steps to the reasoning process, thus making the conclusions less certain. For example, a woman who has recently had a fever and is told that it is likely to rain can see the danger of going outside in thin clothing. Her inability to arrange the argument in syllogistic terms does not affect her reasoning, and were she to attempt to do so, the line of reasoning might become less clear to her.

The Conduct of the Understanding

The Conduct of the Understanding, published in 1706, two years after Locke's death, complements and continues the work of *Some Thoughts Concerning Education.* Since Locke now addresses independent adults, his concerns have altered. Adults are no longer "blank slates" but have developed understandings, which are likely to have developed flaws. The task of the *Conduct* is to guide these adults in how to think clearly and rationally and how to improve their judgment and inform their decisions.

The *Conduct* therefore draws the reader's attention to the many and various flaws that may be present in their reasoning. Some people, we are told, allow others to do their reasoning for them, because they are too lazy to reason for themselves; others allow their emotions to overcome their reason. Locke's readers are asked to examine themselves for any prejudices they may have that might affect their judgment. They must reflect carefully on their principles, to see whether they can truly be relied on.

The ideal is for them to become as epistemically self-reliant as possible. They can gain knowledge by reading, but only if they have assimilated the ideas presented in the book into their own understanding. Locke is firm in the conviction that the ability to repeat the ideas of others does not constitute the possession of knowledge.

However, the reader's self-reliance cannot amount to full independence. They must still seek out other people to inform themselves. Otherwise, they will be guilty of another flaw in reasoning:

> Some men of study and thought, that reason right and are lovers of truth, do make no great advances in their discoveries of it . . . they are very often mistaken in their judgments: the reason whereof is, they converse but with one sort of men, they read but one sort of books, they will not come into the hearing of but one sort of notions. (*Conduct*, § III)

Therefore, although Locke does not recommend any formal course of study to adults, he does encourage them to commit themselves to broad general reading and also to conversation with persons with "notions" different from their own: different opinions and different areas of expertise. By engaging with different opinions, Locke hopes that the readers of the *Conduct* might be able to counterbalance their own prejudices, gaining a more balanced view on political and religious discussions. By ensuring that they converse with people with different expertise, they expose themselves to a greater variety of ideas and give their reasoning skills more exercise. Ultimately the aim of the *Conduct* is to further the goal of a Lockean education: A virtuous adult who can reason clearly and well.

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See also Behaviorism; Moral Education; Postpositivism; Spectator Theory of Knowledge

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Loose Coupling

Introduced in educational contexts by Karl Weick (1976), the concept of "loose coupling" is widely used in education research to describe the weak

connection between classroom practices, administrative goals, and the environment of education organizations. The concept captures how the core of education—what and how children learn—occurs in a relatively isolated classroom, shielded from outside intrusion or oversight. In contrast, some organizations, and some natural systems, have parts that are tightly coupled. This entry discusses the reasons why loose coupling has characterized schools, the impact that loosely coupled dimensions of schools have on efforts to reform schools, and how changes in education have challenged the idea of loose coupling.

The concept of loose coupling has advanced our understanding of the limitations of school reforms, particularly when they fail to produce meaningful structural or pedagogical change (in a loosely coupled system, reforms introduced at one location may have little influence in other parts of the system). These analyses are often situated within a theoretical framework known as New Institutionalism.

Loose coupling is not a function of shirking responsibility or a consequence of the moral failing of school leaders; rather, it is a natural consequence of the high degree of uncertainty surrounding education technologies (e.g., "best practices") and the inability of schools to control their "inputs" (e.g., student aptitude) and also of the multiple demands that are routinely imposed onto schools, including the inclusion of noneducational goals and calls to accommodate differences (e.g., multiple intelligences). Factors such as these give rise to coordination challenges for schools, in part because they often present themselves from different parts of the environment and may contradict one another or be based on limited empirical support. Indeed, it is hard to imagine another type of institution that must accommodate *and* retain such a diverse clientele, balance competing beliefs about its organizational goals, be accountable to a wide spectrum of government and special interest groups, and meet or exceed external standards of excellence. These conditions make organizations such as schools conceptually and structurally different from more "tightly coupled" organizations that operate with a degree of control and goal clarity amenable to inspection and outcome-based processes.

A variety of practices and forms adopted by schools foster loose coupling, including adhering to acceptable institutional scripts (e.g., hiring credentialed staff), avoiding performance indicators that may expose irregularities (e.g., standardized tests), and adopting vague and expansive language to describe organizational activities such as "social development" and "emotional intelligence." Practices such as dividing children up into age-defined grades, offering courses such as math and science, and institutionalizing authority relations between students and teachers also facilitate loose coupling. In short, loose coupling allows some parts of schooling to express themselves according to their own logic, absorb failures or pressures for change, and avoid close monitoring of their activities.

In the 1970s, these insights emerged in a climate that placed few demands on education systems to demonstrate their competency to their constituents and at a time of limited alternatives such as charter or private schools. Instead, the public education sector was marked by increased accessibility and accommodation, evidenced by waves of institution building, curriculum expansion, and equity initiatives. Such sweeping expansion led some researchers to liken schools to shopping malls since both strive to please clients through product expansion and customer responsiveness. In this environment, researchers aptly observed the benefits of the loosely coupled form of schools and how this form garnered trust, warded off inspection, and allowed schools to accommodate a variety of mandates.

In recent years, however, the image of schools as "loosely coupled" has been challenged. First, the landscape of education has changed markedly. A variety of policy reforms have attempted to make schooling processes and outcomes more transparent. Standardized tests, teacher performance appraisals, mentoring programs for new teachers, a more expansive view of parents' role, and policies such as those enacted by the No Child Left Behind Act have attempted to recouple curricular goals, classroom practices, and outcomes. This shift, together with the entry of new and sometimes competing school forms including charter schools and homeschooling, contributes to a new environment of K–12 schooling that has eclipsed the theoretical utility of the monolithic loosely coupled school.

Second, researchers have argued that some subjects and instructional goals (contrary to what is to be expected in loosely coupled settings) readily accommodate to outcome-based teaching and learning practices. Math and science, for example, enjoy a higher degree of consensus about their content and can be rationalized and held to less subjective outcome-based assessments. (In contrast, this does

not seem to be true in the cases of "inclusive" and "character" education initiatives.)

Third, empirical researchers have articulated how loose and tight coupling processes are understood and engaged by participants and how degrees of coupling are partly a function of the relative receptiveness of key school actors to various curricular or school policies. These responses are affected by how messages from the environment filter into schools, and how they are (re)interpreted through teachers' or principals' worldviews and professional biographies.

These newer developments do not undermine the utility of "loose coupling"; rather they attune researchers to the loosely and tightly coupled dimensions of education organizations. In so doing, questions are generated about the control an organization has over elements that are central to its existence—in this case students, the content of teaching and learning, the fundamental mission of schools, and the mechanisms by which we assess the efficacy of schooling organizations. Beyond control, awareness of loose coupling also forces us to separate aspects of organizations that can be rationalized and measured, from those that defy outcome assessment. Recognizing the loosely (and tightly) coupled configurations within organizations allows us to examine how such arrangements intersect with a variety of stakeholders, organizational features that are unique to schools or the organization of interest, and larger macroenvironmental forces.

Janice Aurini

See also Accountability and Standards-Based Reform; Curriculum, Construction and Evaluation of; Evidence-Based Policy and Practice; Quality of Education

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Lyotard, Jean-François

Jean-François Lyotard (1924–1998) has sometimes been thought of as the postmodern philosopher *par excellence*. Whether or not postmodernism's influence is now in decline, whether postmodernism was ever anything other than relativism and reductivism in the latest fashionable guise, whether the very term has become nothing more than another name to line up behind in order to denounce the world, the questions and issues that Lyotard raises should continue to challenge anyone who wants to think seriously about education. Yet the reception of Lyotard's works among educators and philosophers has been decidedly mixed, and often, his ideas have circulated in bowdlerized form, in a manner that his sometimes provocative vocabulary may have invited but that is anathema to his real concerns. So where should one begin?

The Postmodern Condition

Anyone interested in Lyotard and education is likely to take *The Postmodern Condition: A Report on Knowledge* (1984) as a starting point. Commissioned by the Conseil des Universités of the Government of Quebec, this was surely not the kind of report they expected. In fact, it is not a work that Lyotard saw as one of his central philosophical texts, but it is one in which he introduces some of the key phrases with which his name is associated. Recognizing that modern ways of knowing are legitimated with reference to a grand justificatory metanarrative of some kind—perhaps a story of the epistemological doctrines of positivism or postpositivism, or of the dialectics of the Spirit, of the emancipation of the working subject, of humanity as the hero of liberty, of the creation of wealth—Lyotard defined the postmodern as an incredulity toward all such metanarratives. The incommensurability or partitions that Lyotard identifies between our various ways of knowing leads to the suggestion that what is needed is a pragmatics of language particulars, a diligent attention to the heterogeneity of our language such that we "gaze in wonderment at the diversity of discursive species" (p. 26). He explains this heterogeneity by way of Wittgenstein's idea of the language game (there are countless activities we engage in, in which language plays a central but different role—giving orders, reporting on an event, describing, praying, telling jokes, asking, thanking, etc.).

Like Wittgenstein, Lyotard wants to emphasize the lack of systematicity or unified structure to language and thought and to stress the autonomy of different practices; but unlike Wittgenstein, he accentuates the separateness of these "islands of discourse." This accentuation is central, as we shall see, to the ethical concerns that drive much of his thought.

Lyotard's preoccupations in *The Postmodern Condition* are far from abstruse: not only does he respond with remarkable prescience to the profound implications of new technology for education, he also foregrounds the extent to which the social bond is composed of language "moves" (p. 11). It is in this context, and in respect of institutional structures we have become increasingly accustomed to work in, that he claims, "The true goal of the system, the reason it programs itself like a computer, is the optimization of the global relationship between input and output: performativity" (p. 11). Although derived from J. L. Austin's notion of "the performative," Lyotard's adaptation gives the term overwhelmingly negative connotations: It connotes the jargon of efficiency and effectiveness, quality assurance, and inspection and accountability that has become so prominent in contemporary educational regimes, and it nicely evokes practices whose raison d'être sometimes appears increasingly to be the provision of data to fill spreadsheets. Whatever is undertaken must be justified in terms of an increase in productivity, measured in terms of a gain in time. Although there were undoubtedly antecedents to this key principle (say, in reductive utilitarian conceptions of education, perhaps in Ralph Tyler's curriculum planning, or in B. F. Skinner's influence on programmed learning), Lyotard was surely right to identify the increasing dominance of the computer on ways of thinking about education. Quality is quantified, binary thinking predominates, and the computer provides a new, powerful imagery not only for the mind itself but also for the conceptualization of teaching, learning, and knowledge itself. Moreover, Lyotard's account of such change reveals a foresight regarding loss of trust—in teachers and in society more generally—that was to be documented in, for example, Onora O'Neill's Reith Lectures (2002), over two decades later.

Sources of Critique and Innovation

So where does one turn for critique? Traditional theory is always vulnerable to incorporation into this system: its desire for unitary, totalizing truth lends itself to the similarly totalizing practices of the system's managers. So too is radical theory. The 1960s radicals of the university have not so much disappeared from the campus as they have been incorporated into the system: The more outrageous their publications, the more the citations, which is all to the good for the university's research ratings. Through tolerating criticism, through "taking it on board," the system effectively inoculates itself. Ultimately, criticism loses its theoretical and practical force, reduced to token protest or utopian hope.

Contrary to popular conceptions, though, science does not develop simply by means of linear efficiency. It proceeds rather by inventing counterexamples, by looking for "paradox" and legitimizing it with new rules in the game of reasoning. This is not, it should be emphasized, just a matter of innovation. Innovation can take place within the system and can in consequence strengthen it. In contrast, the break that occurs in response to paradox, with the invention of new rules in the game, is of the order of "paralogy." This is a move in the pragmatics of knowledge, where it may be only after the event that the importance of the move is recognized. Lyotard wants to identify and draw some hope from a postmodern science that concerns itself with undecidables, with the limits of precise control, with conflicts characterized by incomplete information and "fractals," with catastrophes and pragmatic paradoxes—examples to upset complacent positivist assumptions. Of the views of the several scientists he refers to, those of the eminent biologist Peter Medawar are indicative: Having ideas is a scientist's highest achievement; there is no "scientific method"; a scientist is before anything else a person who tells stories, albeit stories that there is a duty to verify. Moreover, one of the major obstacles to the imaginative advancement of knowledge is precisely the division between the practitioners of science and the decision makers, especially those who provide the funds. This is a product not of science itself but rather of the socioeconomic system, and it is one in which misunderstanding of science plays an important part. Science itself is open. A statement is relevant if it generates ideas, new possibilities of thinking, and, sometimes, new game-rules.

The emphasis on a departure from rules or on the insufficiency of rules also plays a critical role in Lyotard's conceptions of ethics. While this is a general preoccupation of his early work, it finds its fullest expression in *The Differend* (Lyotard, 1972). There Lyotard ponders examples, actual and imagined,

where judgment needs to be exercised against a background of disparate, conflicting sets of rules or social practices. Lyotard's most vivid illustrations involve occasions where different cultural values conflict, where no resolution is possible, but where a judgment must be made. Sometimes, different languages conflict, such that the process of translation is itself a poignant exercise in judgment. Yet such circumstances arise also in the course of ordinary human life, where, for example, a gifted musician must decide between the exacting demands of her career and her responsibilities to an ailing relative, or where a teacher faces conflicts between her own sense of what is most educationally beneficial for her students and the requirements of the examination system within whose jurisdiction she is working. In such cases, there is no rule or principle independent of these conflicting values to which the person can make appeal. Ultimately, she must decide.

The Limitations of Understanding and Knowledge

While Lyotard's work moves through different phases, it belongs for the most part to that more negative strand of poststructuralist discourse—deriving especially from Søren Kierkegaard and Emmanuel Levinas and also from Kant's Third Critique—where there is an emphasis on the limits of knowledge. Lyotard exploits two examples of this. His thematization of childhood throws emphasis on the ways in which childhood is *not* to be known: that is, our understanding, of our own childhood particularly, is compromised by anthropormorphism, progressively so the further back we go. This prompts the recognition that we come from origins that we cannot access or understand. Hence, any therapy overcommitted to the retrieval of experience will be doomed to distortion, just as forms of developmental psychology that tacitly presume the possibility of full knowledge risk doing violence to the child and, in the process, obscure the possibilities of professional understanding.

In parallel to this, there is Lyotard's somewhat shocking identification of "the jews," an expression that appears within inverted commas and in lower case to emphasize that it is not primarily actual Jews that he has in mind but rather that which cannot be included, without its destruction or, at least, distortion, within the dominant regime or within systematized modes of thought. The concept is introduced in a critique of the work of Martin Heidegger. Like other poststructuralist writers, Lyotard recognizes his debt to Heidegger, but his attack is fierce: He targets not only Heidegger's complicity with Nazism but also a more pervasive, related exclusion or blindness within the master's philosophy itself. Some sense of Lyotard's preoccupations here can be gained if one thinks of the familiar failure of Holocaust films, where the attempt to represent the unspeakable ends up by containing it—say, within the terms of a Hollywood cinema experience. What needs to be understood, in contrast, is that the horror is "immemorial," and this is the important concept here: The imperative is paradoxically to remember that there are always things that cannot be remembered, or, put differently, that there is a necessary forgetting.

Implications for Curriculum and Educational Policy

The negativity in thought illustrated in the preceding paragraphs has its obvious bearing on notions of self-understanding and history, and hence on politics, but it implies something beyond this in relation to the ways that the content of the curriculum is to be understood. Thus, something has gone badly wrong where it is assumed that criteria must be specified exhaustively. By contrast, it encourages a sensitization of teacher and student to the fact that the terrain of the subject of study cannot be surveyed in its entirety but opens to possibilities not yet in view.

While the vision of educational institutions in the grip of performativity is somewhat bleak, Lyotard offers something other than a counsel for despair. The supposed emancipatory possibilities of revolutionary change are regarded as illusory, such that his vision is to be clearly differentiated from the "new sociology of knowledge" or from critical pedagogy. But hope is to be placed in a "minor politics"—that is, in the possibilities of responsible political action within the interstices of the system or at its edge, through a patient, mildly subversive attention to its weak points, with a view to fomenting more gradual and piecemeal change. This less grandiose, more practical aspiration, it turns out, accords well with the experience of many committed teachers and policymakers. It counters the knowing cynicism that often stymies responsible thought about educational policy and curriculum design. It also encourages receptiveness, on the part of the teacher and the student, to possibilities of thought and openings for practice that otherwise remain obscured by ideology,

whether the ideology of performativity in its various guises or that of emancipation.

It is a sad fact that some readers of *The Postmodern Condition* quite failed to see the irony in Lyotard's account of changes in knowledge, imagining that he was actually advocating the very changes against which he warned. It is also regrettable that more sophisticated readers have sometimes failed to see beyond the critique of performativity. What needs to be foregrounded, to counterbalance this, is Lyotard's subtle, imaginative, practical, and responsible vision of the possibilities of education.

Paul Standish

See also Heidegger, Martin; Kant, Immanuel; Positivism; Postmodernism; Postpositivism

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MacIntyre, Alasdair

Alasdair MacIntyre (1929–) is a Scottish philosopher whose work, over a long career spent mostly in North American universities, has ranged over the philosophy of mind, epistemology and the philosophy of science, the philosophy of religion, and especially moral and political philosophy, in which his has been one of the most distinctive and influential voices of recent decades. His writings in these domains, no less than his specific thoughts on education, have been a major stimulus to many contemporary philosophers of education. This entry discusses his overall philosophical position before turning specifically to education.

MacIntyre's Philosophy

Though recognizably "analytical" in style, his writings—like those of other analytical philosophers influenced by G. W. F. Hegel, such as Charles Taylor and Richard Rorty—strongly emphasize the historical dimension of philosophical reflection and engage critically with Continental schools of thought, including phenomenology, hermeneutics, and poststructuralism. His own philosophical standpoint was for many years avowedly Marxist, before metamorphosing into a form of Aristotelianism that, as he later came to argue, is most satisfactorily retrieved and vindicated in Thomism (based on the thought of the mediaeval philosopher/theologian, St. Thomas Aquinas).

MacIntyre's key text, *After Virtue* (1981), has been a major reference point in contests between rival interpretations of the nature and fate of modernity, in the revival of virtue ethics, and in the educationally significant liberal–communitarian debate (an acerbic critic of liberalism, MacIntyre has been widely identified as a communitarian, an attribution that he himself has rejected). In this book, he contended that the Enlightenment project has failed; that the best efforts of characteristically modern, including utilitarian and Kantian, thinkers have not provided a coherent or rationally defensible basis for ethical and political action; that a groundless emotivism—embodied in the deceptive and self-deceived figures of the "aesthete," the "manager," and the "therapist"—is the default philosophy of the culture of so-called advanced societies; that Friedrich Nietzsche provides the most devastating diagnosis of this disordered culture and the most penetrating critique of its would-be philosophical justifications; and that this diagnosis and critique are unavoidable and unanswerable *unless* it should turn out that undeservedly discarded resources from our *pre*modern past can be persuasively recovered. The constructive part of the argument of *After Virtue* is an attempt to show that such resources are indeed available in core insights of Aristotle's moral–political philosophy—insights that MacIntyre reconstructs through an account of virtue (*arête*) that he elaborates cumulatively in terms of "practice," the "narrative unity of a life," and "tradition."

In MacIntyre's writings since the publication of *After Virtue*, two major concerns are identifiable.

First (especially in MacIntyre, 1988, 1990), he has sought to develop an account of rationality (again significant for education) that locates it in traditions of inquiry and argumentation embedded in the practices of communities more or less devoted to the cultivation and exercise of the intellectual and moral virtues. On this account, there is no tradition-independent means of justifying one tradition or of adjudicating between it and other rival traditions. Rather, each tradition encounters challenges and strains, internal and external, cumulating sometimes to crisis. Its claim to rationality is vindicated by its capacity retrospectively to narrate the series of adjustments and transformations through which it has surmounted such crises and by its ability to offer an account of why another rival tradition fails to surmount its besetting crises.

Second (especially in MacIntyre, 1999), he has developed a philosophical anthropology that highlights the vulnerability of human beings, arising not least from the kind of infancy proper to their specific kind of animality, and hence their dependence on each other within networks of giving and receiving. This anthropology is bound up with strong political and religious/theological commitments. MacIntyre's political philosophy, still as critical of capitalism as it was in his earlier Marxist phase, is notably hostile to the modern state, while being supportive of a politics of "local community." And both his emphasis on human vulnerability and his radical—even expressly utopian—ethico-political demands are linked with the affirmation of a theistic position in which humans' ultimate dependence is on a divine being. For MacIntyre, God is understood primarily within the Catholic form of Christianity to which he has given increasingly explicit commitment in his later work (MacIntyre, 2009a, is an historical outline and partial defense of "the Catholic philosophical tradition").

MacIntyre on Education

For MacIntyre (1998), what is required by the very nature of education is deeply incompatible with what prevails in the present economic, political, and cultural order; hence, his view that "education should be a preparation for constructive engagement in conflict" (p. 107). Well-educated students will take a questioning attitude toward that order and its dominant institutions, making them to a large extent unfit to participate compliantly and successfully in the larger societies to which they belong. But if education takes an oppositional stance to the existing order, it has to do so on terms, dictated by this order, that are altogether uncongenial to its own nature—terms that assimilate it to a production model in which schools are judged on the basis of outputs, such as examination results, credentials, and relative placements on "league tables" (school performance rankings), achieved with the minimum of inputs and, hence, with maximal productivity. Like radical critics before him, then, MacIntyre faces—as he himself recognizes—what seems to be a vicious circle: to bring about the good society, a good education is needed; but conversely, such an education hardly seems possible unless the good society already exists. The fact that he does not countenance the totalizing response to this circle of a Plato or the kind of Trotskyite Marx to whom he was earlier drawn—nor even any systematic attempts at reform through the agency of national or transnational bodies—may seem to leave education in his eyes with no hope other than what may be kindled in the kind of small, marginalized communities invoked at the end of *After Virtue*. But it is clear in some subsequent writings that he sees education as something that can always be attempted in schools through concerted resistance by those committed to the cultivation of key virtues—who, despite their opposition to state designs, may strategically exploit state resources.

For all his radical dissent, the actual content that MacIntyre envisages for education seems close to traditional conceptions of a liberal education ("liberal" here connoting not individual freedom as trumping the common good but rather the character of certain forms of activity and knowledge as ends in themselves, freed from external or instrumental purpose). This content would include, for example (within an Anglophone setting), English and at least one other language and literature, a good deal of history, mathematics up to the differential calculus, and experimental and observational science. It would also include the visual arts, music, and various games and sports; some generic capabilities (e.g., for accurate and discriminating sensory perception and for storytelling); and some assorted skills (e.g., for car repair, wall building, and computer programming). By including skills of this type and by insisting that such an education should be provided by any decent modern polity to *all* students, irrespective of their parents' wealth or their own likely after-school occupations, MacIntyre departs from conceptions of liberal education that were complicit with various kinds of academic as well as socioeconomic

elitism. And he does so also by the way in which he can frame the content of education by reference to the above-mentioned conceptions, integral to his account of virtue, "practice," the "narrative unity of a life," and "tradition."

For MacIntyre, school subjects can be seen as practices into which young people are to be initiated. As such, they are complexly patterned domains of activity that have evolved collaboratively and cumulatively, each with its own defining standards of excellence, answerability to which enables the achievement of its specific ends or goods. These goods comprise the outcomes aimed at by and through a practice *and* the capabilities that practitioners must acquire and exercise if they are reliably to achieve these outcomes—capabilities that include both competences specific to the practice *and* virtues of character (e.g., honesty, patience, courage, justice) that transcend any single practice though they are necessary in all of them. Thus defined, "practice" is instantiated in a wide and varied range of domains, including productive pursuits (e.g., farming or weaving) and—of special significance in education—areas of theoretical inquiry (e.g., physics or history), performing arts (e.g., dancing or flute playing), and games (e.g., soccer and chess). Practices are important to education not only because they offer a helpful way of conceiving different curricular areas but also because, by providing the most significant sites for the development and extension of human powers, including systematic acquisition of the virtues, they are essential in the constitution of a good and flourishing life for individuals and communities.

A fuller articulation of the good life, on MacIntyre's account, will integrate the goods of practices with two other related elements, the *narrative unity of a life* and *tradition*, each of which has its own bearing on how education is to be understood and conducted. Narratively structured, a human life is not altogether dispersed into compartmentalized zones or discrete and discontinuous episodes but can be gathered in such a way that the question "what is the good of my life as a whole?" can, with greater or less explicitness, be meaningfully pursued. Preparing students for this pursuit is a central aim of education; he ascribes a special importance to literature and history in achieving this goal. Each of these subjects can in different ways disclose the narrative threading of human lives (with their peculiar weaving of chance, circumstance, character, and intention), thus helping students—albeit perhaps with greater focus and force only *after* their school experience—to see the unfolding direction of *their own* lives as presenting them with the crucial ethical task that is rendered more difficult, but no less escapable, in the hugely fragmenting and dispersing conditions of late modernity. At a more communal level and in larger historical scope, narrative is shaped through tradition. Of course, each practice is the carrier of its own tradition, but MacIntyre has particularly in mind wider continuities of inquiry and argument about the overall human good embedded in different philosophical schools or religious communities.

MacIntyre's insistence on this dense historical embedding underlies his critique of the modern secular university—which, under the guise of liberal impartiality, enforces its own exclusions—and his plea (in the concluding chapters of MacIntyre, 1990) for two other kinds of university, one inspired by Thomism and the other by Nietzschean genealogy. He envisages a scenario in which universities of these three kinds would further their own unabashedly partisan agendas in open conflict with each other. Constrained agreement within each one, he suggests, would offer a counter to the damaging fragmentation within the academy brought on by ever-increasing research-driven specialization. Furthermore, it would facilitate the kind of generalist undergraduate education that might equip students with a scientifically and mathematically informed understanding of the material universe (including the human brain), a historically informed understanding of the most important influences shaping who they are now in advanced modernity, and a capacity to engage with cultures very different from their own. As if all that were not enough, such constrained agreement would do all this in a way that would bring a *unifying* perspective to their studies (see also MacIntyre, 2006, 2009a, 2009b, in which the influence of Newman's *The Idea of the University* is increasingly apparent). And *unconstrained disagreement between* all three might help bring some degree of resolution to the apparently inadjudicable disputes between opposing worldviews that mark the contemporary scene—or at least make the differences between these positions stand out with less distortion. Conducted on these terms, universities might contribute to the formation of what MacIntyre sees as indispensable to a healthy politics, that is to say the kind of "educated public" that is so signally lacking in contemporary societies (though it was prefigured, as he concedes, in such an Enlightenment society as 18th-century Scotland; MacIntyre, 1987).

Reception of MacIntyre's Thought in Contemporary Philosophy of Education

Given the trenchancy of MacIntyre's assaults on so many of the positions held in modern and contemporary philosophy—and especially on liberalism, conceived of as "an ideological disguise" for the power of the modern state and the allied international economy—it is hardly surprising that his own writings have attracted sharp criticism; and objections to his views on education have tended to mirror this wider criticism. He has been taken to be canvassing a restorationist project, with authoritarian as well as conservative import; the kinds of equality and solidarity that he is undeniably proposing are seen to threaten individual liberty as the most unquestionable value of modernity. It is along these lines that deep misgivings about his position have been voiced by prominent philosophers of education (e.g., Richard Smith and Kenneth Wain). Others, however, have seen his work as offering powerful conceptual resources for combating the colonization of education by market-driven pressures and for articulating an emancipatory, historically grounded countervision of education (e.g., Wilfred Carr and Daniel Vokey). Much of the response to his work has revolved around his conception of practice and key distinctions that it incorporates (between internal and external goods, between skills and virtues, and between practices themselves and the institutions that house them). Some philosophers of education (e.g., Joseph Dunne and Chris Higgins) have made much of claiming that educative teaching, and not only the diverse subject areas that are its concern, is *itself* a practice. The fact that MacIntyre himself has denied this claim has been the catalyst for considerable debate in philosophy of education over the past decade (Dunne & Hogan, 2004).

Joseph Dunne

See also Aquinas and Thomism; Aristotle; Communitarianism; Liberal Education: Overview; Liberalism; Newman, John Henry (Cardinal); Nietzsche, Friedrich; Virtue Ethics

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Makiguchi, Tsunesaburo

Tsunesaburo Makiguchi (1871–1944) was a geographer, educator, and founder of a new religious movement in Japan. His first book, *Jinsei chirigaku* (*The Geography of Human Life*), was published in 1903, just months before the start of the Russo-Japanese War.

First as an elementary school teacher and later as a geography instructor at a teachers' training school, he developed an awareness of the importance of geography in school education. He considered it important for students to directly observe the relationships between people's lives and their environment in the local community. Furthermore, he emphasized the necessity to broaden students' horizons—from the local community to the national state and to the world.

Although he saw value in human life arising from the interaction between man and nature, he rejected geographical determinism, the view that human culture is determined by the physical environment rather than by social conditions, and posited a more

anthropocentric orientation. He accepted the current theories of social evolution and thought that civilizational progress would resolve many geographic challenges. In Parts 1 and 2 of *Geography*, for example, he noted that varying degrees of civilization were realized under similar geographic conditions.

In Part 3, he analyzed various aspects of human life in society, comprehensively treating economic geography, settlement geography, cultural geography, and political geography. His *Geography* is considered the first systematic and theoretically developed treatment of human geography written in Japan.

While recognizing that progress benefited "civilized" societies, he saw that the resulting power differential exposed other societies to colonial conquest or exploitation by the Western powers—a fate that had befallen many nations in Asia and which threatened Japan.

Against this background, he envisioned the future development of civilization. Although progress produced increasingly intense competition among nations, he suggested four stages or modes for this competition: military, political, economic, and humanitarian. Although he realized that economic competition was dominant in his time, he hoped that humanitarian competition would bring a transition from an ethos of competition to one of cooperation and coexistence.

Kyoju no togo chushin to shite no kyodoka kenkyu (Research Into Community Studies as the Integrating Focus of Instruction), published in 1912, maintained that the school curriculum should be reorganized around direct observation of the natural and social realities of the local community.

In 1930, one year before retiring as a primary school principal, Makiguchi published Parts 1 and 2 of *Soka kyoukugaku taikei* (The System of Value-Creating Pedagogy). Here, he identified pedagogy as the empirical study of rational and intentional human action, one of the applied sciences, which he contrasted with the pure (natural) sciences. He emphasized the need to collect and analyze data about educational experience in order to clarify the principles (methods) that would enable even inexperienced teachers to be successful in the classroom.

In Part 2, he examined the purpose of education. He considered guiding learners to lifetime happiness to be the purpose of education. This meant enabling learners to engage in a harmonious social life; thus, like Émile Durkheim, he advocated that pedagogy be rooted in sociology. Examining various modes of human existence, he asserted that when made conscious of how people live in society, pupils will naturally understand the importance of cooperative action.

Part 3 (1931) dealt with the philosophy of value, a preoccupation of the intellectual class in Japan at the time. Makiguchi saw the capacity to create value as key to a happy life. Many contemporary philosophers considered abstract, spiritual values, such as truth, good, and beauty, superior to material values, such as economic well-being. Makiguchi viewed beauty, gain, and good as core forms of value and related them directly to daily life. Without economic stability, we can neither live independently nor help others; the value of gain is thus central for ordinary people. The value of beauty may be to help us recover from fatigue and stress in daily life; it enhances our lives, but in only a limited way. We cannot live happy lives without a stable and secure society, so the social value of good is superior to the individual value of gain.

Makiguchi distinguished truth from value. Truth or falsehood is determined by whether or not a proposition corresponds to fact. Value, in contrast, is an interaction between the evaluating subject and evaluated object. Although truth (knowledge) can have value, this derives from its usefulness for life.

Where some philosophers of the time considered the religious value of the sacred to be the ultimate value, Makiguchi saw the social role of religion as alleviating suffering in individuals and society; in individuals, this corresponds to the value of gain, on a societal level, to the value of good. Therefore, Makiguchi subsumed the abstract into concrete benefits for individuals and society.

In Part 4, Makiguchi proposed various educational reforms. To counter the harmful effects of the centralized educational system and its attendant nepotism, he proposed holding examinations to qualify elementary school principals, abolishing the school inspector system, giving greater autonomy for schools, and allowing the participation of parents in education. To enhance teaching skills, he called for a national educational research center and the reform of teacher training programs. To enhance efficient learning integrated with society, as well as to facilitate lifelong learning, he called for a half-day school system.

In Part 5, on educational methods, Makiguchi stated that the purpose of instruction is not to transfer knowledge but to guide and support the learning process, thus highlighting the questions of the best means for inspiring pupils' interest.

Part 6 dealt with teaching materials and curriculum; here Makiguchi reiterated his call to make study of the local community the core curriculum so as to arouse pupils' interest through direct observation of relationships between the environment and human life.

In 1928 or 1929, one or two years before the publication of *The System of Value-Creating Pedagogy*, Makiguchi became a convert to Nichiren Buddhism, through the efforts of a fellow school principal who was a lay believer of the Nichiren Shoshu sect. Before his conversion, Makiguchi had had varying degrees of contact with different religions, including Protestant Christianity, Zen Buddhism, and Nichirenism (Kokuchukai), but he did not commit fully to any of them because they were not compatible with his scientific and social thinking.

In Part 3 of *The System of Value-Creating Pedagogy*, he described four aspects of Nichiren Buddhism that he found especially convincing. First, there is a similarity between scientific methods and the Nichiren Buddhist method of weighing truth claims in Buddhist thought: employing the standards of actual proof, compatibility with reason, and documentary proof. Second, although many religions worship an anthropomorphic deity or Buddha figure, Nichiren Buddhism worships the Law (Dharma) as a means to becoming a Buddha. Third, the Buddhist Law is not incongruent with the laws and principles governing our social life. Fourth, the Buddhist injunction, "Rely on the law and not upon persons" is well suited to a modern constitutional dispensation under the rule of law. Makiguchi found these features to be compatible with his prior thinking. Where his interpretation is not consistent with traditional doctrines of Nichiren Shoshu, he gives priority to the logic of science.

In his 1936 essay, *On the Relationship Between Science and Religion*, the method of research he had earlier termed *applied science* was now referred to as the "science of value." Specifically, this means the effort to collect and integrate experiences of value creation to discover guiding principles by which people can attain lives of the greatest happiness. He proposed researching the efficacy of religion in value creation, asserting the existence of religion is justified only to the extent it provides the value of enabling people to enjoy happy lives.

In his 1937 essay, *Scientific and Supra-Religious Empirical Verification of the Methods of Value-Creating Education*, Makiguchi seeks to demonstrate that Nichiren Buddhism is the highest religion, based on its ability to create positive value for those who uphold it and, conversely, negative value for those who reject or deny it.

In his last years, Makiguchi criticized the religious policies of the military regime on the basis of his assertion that Buddhism transcends national law. He was arrested as a "thought criminal"; in the record of his interrogation in July 1943 by the Special Higher Police, he denied the myth of the emperor's divine origins and declared the emperor to be an ordinary man who makes errors. He was sentenced to prison, where he died in 1944.

Koichi Miyata

See also Religious Education and Spirituality; Teaching, Concept and Models of; Values Education

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Managerialism

The term *managerialism* refers to systems of governance that involve the operation of market principles in the management of organizations. It refers in particular to the prioritization of private (for-profit) sector values of efficiency and productivity in the regulation of public sector organizations on the assumption that these private sector values are superior to those traditionally found in public

sector organizations. It gives primacy to management and endorses strong market-type accountability in public sector spending. The attainment of financial and other targets is a priority, and success in meeting targets is measured through public audits of the quality of service delivery. The development of quasi-markets for services is also a key goal; this operates as a further form of control through competition and public surveillance (Clarke, Gewirtz, & McLaughlin, 2000).

While it would be a mistake to view new managerialism as a unitary whole, implemented consistently across differing cultural and economic contexts, nevertheless in the redesign of public service provision, key features of managerialism include an emphasis on outputs over inputs; a change of language from that of citizens, rights, welfare, and solidarity to that of customers, service users, and competition; the close monitoring of employee performance; and the encouragement of self-monitoring through the widespread use of performance indicators, league tables (published tables of school rankings), target setting, benchmarking, and performance management. The decentralization of budgetary and personal authority to line managers combined with the retention of power and control at the central level, and the introduction of new and more casualized contractual employment arrangements, as a means to reducing costs and exercising control, are also defining practices. Within new managerialism, there is an elision of the differences between public and private interests. New configurations of public–private relationships are designated as "partnerships"; these include outsourcing services like catering and private finance initiatives for new public buildings (Ball, 2009). This entry discusses the theory of managerialism, its ties to neoliberalism, its impact on educational practice, and the relationship between gender and managerialism.

Theorists of managerialism regard management as a political and not merely a technical activity. They hold that it is best understood as an ideological configuration of ideas and practices brought to bear on public service organization, management, and delivery with a view to aligning organizational practices with those in the market system. It is about creating new management orthodoxy as to how public services are run. They regard it first and foremost as an ideologically motivated approach to managing public services (Ball, 2009; Blackmore, 2010).

However, most theorists who use the concept of new public management to analyze recent changes in the field see the process of management reform as the implementation of an apolitical form of regulatory governance of public services by state agencies. Their main reason for rejecting the link between new forms of public management and ideology is that they regard it as not simply ideologically driven because governments of very different political persuasions in Western states have adopted new public management (or managerial) reforms (Pollitt, 2003).

Historical Antecedents

Within traditional capitalist enterprises, ownership and control of operations were integrated functions. As capitalism became corporatized, managing workers and ensuring their productivity became a separate professional task in large companies. The division between ownership and control facilitated the emergence of managerialism as management became a professional task. The work of managers was to ensure the efficient output of goods and service: maximum output for minimum cost. Max Weber characterized this form of thinking as an extreme form of instrumental reasoning where, in the interests of efficiency, value is not imputed to the activity itself but what the activity produces. He also foresaw the potential conflict between the formal-procedural rationality, to which instrumental reasoning leads, and more substantive value rationality, noting the dangers of the "iron cage" of extreme instrumentalism where there would be specialists without spirit and sensualists without heart (Weber, 1930/1976, p. 182).

In prioritizing efficiency and productivity over other values in work organizations, managerialism is closely aligned also with Taylorism or scientific management as developed by Frederick Taylor in the late 19th and early 20th centuries. In his 1911 book *Principles of Scientific Management*, Taylor argued that improving worker productivity involved increased surveillance and direction of their work by managers, thereby creating a management class with increased power within work organizations. The prioritization of management as a field of practice, in aligning efficiencies with increased outputs, remains a core principle of management today.

Governmentality and the Internalization of Managerialism

Michel Foucault's analysis of how power is exercised has greatly enhanced understanding of the way control and regulation is exercised, particularly how regulatory values are internalized and operationalized

at the individual level. His concept of governmentality helps explain the success of managerialism as a political project. It provides a conceptual framework for understanding how individuals implicate themselves in their own governance within managerial organizations (Foucault, 2010).

Drawing on Foucault, Nikolas Rose (1989) has contributed to a further understanding of the operation of governmentality at the individual level. He shows how control is increasingly exercised less through sovereign or hierarchical power than through internalized self-regulation, particularly in the neoliberal era. The internalization of managerial values is not a simple process. It involves the management of identity as a modality of control that includes "managing the insides" of workers, in terms of their hopes, fear, and expectations of success in the work organization. Flexibility, adaptability, self-empowerment, and self-actualization are incorporated into the new worker (and manager) identities: commitment to corporate goals for excellence and achievement becomes a necessary characteristic of the person (a matter of their character) rather than a requirement of the organization. In this sense, Rose speaks of the "ethic of autonomous selfhood" that pervades the enterprise culture—a governing of the soul that deploys new technologies of the self, governing from the inside out. Managerialism is thus a form of governmental rationality, a type of disciplinary knowledge that generates its own compliance; people internalize the values of efficiency, productivity, and outputs, through habitual practice and ideological infusion.

Managerialism and Neoliberalism

Managerialism cannot simply be reduced to a series of management practices and activities. It is embedded in a complex series of social, political, and economic organizational changes that are tied to neoliberalism as a political project (Clarke & Newman, 1997). It rests on the neoliberal assumption that the market is the primary producer of cultural logic and value and that solutions to societal ills and the management of social change can be best understood through the deployment of market logic and market mechanisms. Economic, educational, and social problems are thus construed as management issues that new and more efficient managerial regimes can resolve. The ethical, political, and social dimensions of such problems are treated as secondary considerations.

Managerialism is not regarded by most, therefore, as a neutral management strategy; it is a political project heralding a new mode of governance that provides a unique type of moral purpose for businesses, and organizations modeled on businesses, including schools and colleges. Market-led models of control and regulation become the prototype for work organizations both inside and outside the market. One of the major concerns expressed regarding new managerialism's prioritization of efficiency and effectiveness is that it occurs at the expense of more broadly based moral and social values related to care, autonomy, tolerance, respect, trust, and equality. This has the ultimate impact of defining human relationships in work organization in transactional terms, as the means to an end—the end being that of high performance and productivity.

Managerialism, therefore, is quite a controversial mode of governance, as many claim that it reduces first-order social and moral values to second-order principles; trust, integrity, and solidarity with others are subordinated to regulation, control, and competition. When managerialist practices achieve hegemonic control within organizations, they parasitize and weaken those very values on which the organization depends. While few would question the value of efficiency, in terms of maximizing the use of available resources, the difficulty with managerialism is that it does not just prioritize efficiency, it suppresses other organizational values so that they become incidental to the running of the organization. The net effect of the devaluation of moral purposes in and of themselves is that public services, such as education, are increasingly defined as commodities to be delivered by the market to customers who can afford to buy them. They are no longer defined as capacity-building public goods that are governed by rights protected by law at national and international levels.

Managerialism and Education

Managerialism in education poses specific challenges for teachers and students. Managing a school requires many skills, some of which are purely technical and apply in any organization (planning, budget and time management, personnel relations, etc.), while others are unique to education, including the developmental and nurturing skills required to enable students to grow and develop and to support teachers in this task. Developing and caring for others entails an emotional investment in people that is not required in many organizations as a

"product." Because managerial principles originated in a commercial context where process is subordinated to output and profit, managerialist values manifest themselves in education through the promotion of forms of governance (measurement, surveillance, control, and regulation) that are often antithetical to the caring that is at the heart of good education. While the nurturing of learners has an outcome dimension, gains are generally not measurable in a narrowly specifiable time frame. The gains and losses from having or not having care and nurture in education are only seen over time (Feeley, 2009). Moreover, the caring dimensions of education are not open to measurement in terms of quality, substance, and form within a metric measurement system. Even if caring could be monitored and measured through matrices, the very doing of this would force people into the calculation of other centeredness that would undermine the very principle of relatedness and mutuality that is at the heart of teaching and learning (Lynch, Grummell, & Lyons, 2012).

As managerialism is the organizational form aligned with neoliberalism, it implicitly endorses a concept of the educated person that is market led. Education is defined in terms of human capital acquisition, making oneself skilled for the economy. The purpose of education is increasingly limited to developing the neoliberal citizen: One is educated to be a self-sufficient, rational, competitive, and economic actor, a cosmopolitan worker built around a calculating, entrepreneurial, and detached self.

Impact on Education Professionals

Managerialism has also altered the relationships between professionals and the state, especially in the public sector. The traditionally powerful position of professionals in public sector organizations has been strongly challenged through systems of surveillance, regulation, and accountability that have been established under managerialism. The forms of accountability that have been institutionalized for the professions, including the promotion and enhancement of user groups (parents and students), and other education stakeholders, including business and corporate interests, meant that educational "consumers" exercise control and influence over professionals in a way that was not true hitherto. Consequently, there has been a restructuring of professional identities in line with technicist job requirements. Measuring one's professional performance against key indicators established by stakeholder interests has become a task in itself (Deem, 2004). However, not all of those within the professions are equally affected by the changes. The strategic importance of reconstructing professionals as managers for the successful implementation of managerial reforms has allowed those who endorse managerialism to make professional gains. Thus, even among professionals, divergences of power, status, and influence have emerged between those aligned with and exercising managerial control and those concerned with the systematic maintenance and administration of school routines.

Impact of Managerialism on Educational Practice

Managerialism has had a profound influence on the management and orientation of education over the past two decades of the 20th century, and into the 21st century. The impact of managerialism has not been even, however, either geographically or across educational sectors. Its impact is greatest in higher education where there has been a global movement to make higher education into a marketable commodity that can be traded internationally (Marginson, 2006). The introduction of league tables and rankings for universities (most rankings are commercially led by powerful publishing interests in the media including the *Times Higher Education* World University Rankings and that of Quacquarelli Symonds) has been an especially powerful tool for generating control over universities. The impact of the managerialist culture is not confined to higher education, however, especially within the English-speaking world of Australia, New Zealand, Canada, the United Kingdom, and the United States. Within these countries, managerial practices have also been invoked at primary and secondary levels through the introduction of local site-based school management and the devolution of budgetary control to individual schools. It has also involved the introduction of performance management pay and appraisal systems and national standardized testing of children. Published ranking of schools is also common, resulting in the polarization of schools (primarily on the basis of social class) as middle-class schools become oversubscribed and low-performing schools struggle to maintain their numbers. The impact of these reforms on school personnel, both teaching staff and senior management, has been substantial, leading to changing subjectivities

among both teachers and principals, as they seek to position themselves within the new managerialist order. There is a privileging of entrepreneurial activity as school leaders attempt to market their schools in line with "consumer" demands and interests.

Gender and Managerialism

Senior management posts are gendered within (and without) education, especially in higher education. Male power is embedded within organizational structures through hidden constructs of the "ideal" type manager, through methods of recruitment and selection, through processes of job grading and career progression, through the organization of hours of work and via the seemingly neutral informal networks and sponsorship that operate outside of work hours in clubs, gyms, sport, and other leisure activities (Blackmore & Sachs, 2007; Halford & Leonard, 2001).

The gender impact of managerialism in education has taken a number of hybridized forms depending on the sector in which it is implemented. However, in all contexts, its successful implementation involves a shift in organizational culture to one that is firmly embedded in the principles of market dynamics, accountability, and enhanced productivity. When analyzed in terms of gender dynamics, managerialism presents both challenges and opportunities for men and women to (re)negotiate their positions in the highly competitive market-oriented culture. With the breakdown of traditional patriarchal power positions, there is an emphasis on what you can do rather than necessarily who you are; in theory, women have the same chance of being promoted to senior posts as do their male counterparts in new managerial regimes. The de-layering of management structures can and does undermine traditional patterns of male dominance (Collinson & Hearn, 2003; Deem, 2004). However, under managerialism, there is also an expectation that senior managers are competitive, tough, individualistic, and wedded to the organization. There are assumptions that senior education managers can be workers 24/7, a lifestyle that is highly gendered in a way that advantages men and women who have few responsibilities outside of work (Lynch, et al., 2012).

Under managerialism, there is also a new code of values underlying decisions about what constitutes valuable knowledge—decisions that affect the organization of power. Market knowledge matters most; disciplines and fields of study that are not marketable have lower status and power. As STEM (science, technology, engineering, and mathematics) subjects are prioritized in the neoliberal era of market-relevant research and education, those who teach and research in these fields are at the pinnacle of the knowledge hierarchy, especially if their work has market relevance. Their research is given priority for funding and is most likely to attract private investment in public–private partnerships given its potential for patents and profit. Given the traditional male dominance of STEM subjects, it is not surprising that the gender hierarchies of knowledge translate into gender hierarchies of governance, especially in higher education. While women in the STEM fields do benefit from this process, they remain a minority. Subjects remain gendered and stratified, not just in status terms but in funding terms; research and teaching in the humanities and social sciences, all of which are strongly feminized fields, and are centered on the relatively poorly funded voluntary and public service sectors where no patents apply, are positioned as dependents in the market-led world of mangerialism.

Kathleen Lynch

See also Economic Development and Education; Gender and Education; Globalization and World Society; Higher Education: Contemporary Controversies

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Maritain, Jacques

The prominent French neo-Thomist Jacques Maritain (1882–1973) articulated a holistic philosophy of education that must be understood in light of his adult conversion to Roman Catholicism and his determined attempt to revive a rationally compelling Christian philosophy through a systematic application of the ideas of the medieval philosopher Thomas Aquinas (1225–1274). Maritain argues for a spiritually sensitive humanism that views education as an aid to individual human flourishing.

Life

Raised as a Protestant, Maritain began his university career as a science student at the Sorbonne. In 1901, driven to despair by their sense of the moral and spiritual poverty of materialistic science, he and his future wife, Raïssa Oumançoff, made a pact that they would commit suicide within a year if they could not find some higher meaning in life. They were first attracted to the lectures of Henri Bergson, who reasserted the primacy of "intuition" or immediate experience as a deep source of legitimate knowledge that moved beyond science. Under the influence of Leon Bloy, Maritain and his wife converted to Catholicism and eventually discovered Thomas Aquinas, leaving their Bergsonian ways behind for a comprehensive but sometimes eclectic modern Thomism.

After earning several degrees in science and philosophy from the Sorbonne, Maritain went on to teach at many different universities, including l'Institut Catholique de Paris, the Pontifical Institute of Mediaeval Studies at the University of Toronto, Columbia University, the University of Chicago, the University of Notre Dame, and Princeton University. After the death of his wife in 1960, he entered the Little Brothers of Jesus, a new religious congregation inspired by the life and thought of Charles de Foucauld. He led a quasi-monastic existence at their house in Toulouse until he died in 1973.

An eclectic, wide-ranging author, the mild-mannered Maritain was a celebrated, progressive, Catholic intellectual. He had an ardent interest in literature and art and wrote significantly on aesthetics. An international authority on political, moral, and philosophical issues of the day, he played a role in the drafting of the United Nations Universal Declaration on Human Rights and was the French ambassador to the Vatican from 1944 to 1948. He was criticized in some conservative circles for what was regarded as a commitment to secular, modern, liberal ideals and a misplaced social justice perspective. Lately, there has been a resurgence of interest in his thought; there is currently a Jacques Maritain Center at the University of Notre Dame. The university's press is publishing an extensive collection of English-language editions of Maritain's work.

Philosophy of Education

Maritain's philosophy of education cannot be separated from his larger philosophical orientation, which derives from Aquinas, Aristotle, neo-Scholastics such as John of St. Thomas (John Poinsot), as well as canonical Christian authors such as Augustine and St. John of the Cross. His traditional, humanist views can be seen as reaction to pervasive modern trends. Maritain argues against naturalism (or positivism), which views science as an explanation of everything; against atheistic

Marxism, which reduces the individual to part of a merely historical collectivity; against existentialism, the idea that ethics arises through radical (subjective) choice; against pragmatism, which views knowledge as merely a matter of instrumental reason ("what works"); against any modern idealism that would deny metaphysical access to the real world; against neo-Kantianism, which views knowledge (particularly moral knowledge) as nothing but a matter of universal rules; and against an analytic conception of philosophy, which promotes a narrow specialization that neglects wider historical and humanitarian concerns.

In response, Maritain offers a personalist view of education. His neo-Aristotelian views are frankly teleological. Human beings have been made with a natural and a supernatural purpose, which includes the perfection of their moral and intellectual natures as well as growth in their knowledge of God. The primary goal is not the mere accumulation of knowledge but the full development of the human personality. At every level, the role of the teacher is to encourage and facilitate the optimal realization of the particular talents and abilities of each student. Maritain believed that men and women are different but equally capable of intellectual excellence. Women are more intuitive than men. He strongly opposed corporal punishment. Instead of enforcing diligence and prohibiting wrongdoing, teachers should promote a sense of responsibility that naturally pushes individuals to a moral and intellectual success commensurate with their capacities.

Maritain believed that education has an inescapable moral component. Goodness is more important than mere learning. Education should inculcate and foster five basic virtues: (1) a love of truth, (2) a love of justice, (3) an affirmative attitude toward all existence, (4) a sense of devotion to work well done, and (5) a sense of collegiality and cooperation with others.

Maritain maintained that education should be widely available to all. Without an adequate understanding of the stages of childhood development, one may harm the child. A student's likes and dislikes indicate the most appropriate course of individual study. He recommends the study of logic and philosophy at secondary school and supports a general liberal arts education (much like a Great Books curriculum) at the postsecondary level. The latter would include study of Greek and Latin classics, an emphasis on perennial philosophy, as well as an introduction to theology and to religious subjects. More fundamentally, Maritain believed in interdisciplinarity. He did, however, identify four general areas of inquiry: the theoretical, practical (or moral), and technical, as well as a metalevel of inquiry that deals with more general and basic questions raised by the three first-order inquiries.

In his philosophy, Maritain leaves an important place for the exercise of intuition or connatural knowledge that arises not through language but through immediate, active participation in life. In discussing education, he argues against exaggerated ambition: Not everything can be taught. At the same time, he warns against empty skepticism: Content matters. The goal of education is to pass on knowledge, not to use logical quibbles to raise clever doubts in the minds of students. It is not enough to endlessly compare opinions to no useful end. Education must be motivated by a sincere, determined effort to grasp the nature of things.

The most salient feature of Maritain's theory is, perhaps, his holism: the idea that education should focus on the whole person, including the natural, scientific, useful, social, intellectual, spiritual, and the moral aspects of human nature taken together. His theory of education has a communitarian orientation in that it aims to insert each fully developed human person into a community of persons under God.

Louis Finbarr Groarke

See also Adler, Mortimer, and the Paideia Program; Aquinas and Thomism; Aristotle; Essentialism, Perennialism, and the "Isms" Approach; MacIntyre, Alasdair; Moral Education; Phronesis (Practical Reason)

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Martin, Jane Roland

This entry discusses the work of a late modern philosopher, Jane Roland Martin (1929–), who has contributed to at least two major paradigm shifts in thinking on education. First, she participated prominently in the movement that introduced analytic philosophy to educational theorists after the mid-20th century. Then, in that century's last two decades, she led the postanalytic turn to acknowledge and value women as subjects and objects of educational thought, along with their philosophically neglected, gender-constructed purposes, practices, problems, and culturally diverse genres of educational inquiry. That generative move unsettled analytic philosophy's dominance in the field nationally in the United States, even as it reinvigorated and broadened critical study of educational thought's history internationally. After the arrival of the new millennium, Martin analyzed the conceptual meaning and critical pragmatics of both "cultural miseducation" and "educational metamorphoses," studies that led her then to question "the deep structure of educational thought" and theorize education's 21st-century reconfiguration.

Martin's historical and social location has intensified the cultural significance of her prolific revolutionary legacy as a philosopher of education. Coming of age academically before sex equity became a federal policy governing appointments to the U.S. professoriate, she never had the privilege of pursuing tenure on a research university faculty despite her much noted early analysis of problems inherent in reducing all knowledge to skills. Instead, she taught a large number of undergraduates as a philosophy professor at University of Massachusetts–Boston, while writing *Explaining, Understanding, and Teaching* and many articles and lectures, including those collected later in *Changing the Educational Landscape*, as well as her groundbreaking reconstruction of five Western ideals of the educated woman in *Reclaiming a Conversation*. Producing most of her philosophical oeuvre as an emerita, she theorized "gender-sensitive" schooling in *The Schoolhome* and women's possible transformative impact on higher education in *Coming of Age in Academe*, before she turned to study cultural diversity's educational complexity and significance in *Cultural Miseducation*, *Educational Metamorphoses*, and *Education Reconfigured*.

Philosophy, Curriculum, and Women

Martin's contributions to analytic philosophy of education centered on the structure of explanation and understanding as well as the logic of curriculum. Whereas the former project analyzed empathic understanding, *verstehen*, as an explicitly educational doctrine, the latter project included critical analyses of the relationship between disciplines and curriculum, of taken-for-granted notions such as "god-given subjects" and "immutable basics," and of the anatomy of school subjects. She posed and considered questions about how students' choices or mere chance could and should figure in curriculum construction, and in a landmark study, she analyzed the conceptual meaning of "hidden curriculum" as well as various options for educators' responses to it. She critiqued the ideal of liberal education and its most conservative advocates' objections to new interdisciplinary fields like social studies, Black studies, and women's studies. Undertaken in the era of radical movements for free schools, civil rights, and peace, these studies made scarce mention of women or gender but did lead Martin to argue that philosophical inquiry on curriculum should not be reduced entirely to epistemology: that ethical, social, and political curriculum questions merit philosophical attention as well.

In the 1980s, she began such an extensive philosophical project of curriculum inquiry by writing gender critiques of R. S. Peters's ideal of the educated person, of other analytic philosophers' standard senses of teaching and education, and of the canonical history of educational thought more generally—specifically studying works by Plato, Jean-Jacques Rousseau, William James, Paul Hirst, and Israel Scheffler. Her critical examination disclosed the field's preoccupations with "productive processes of society," which consisted of political, economic, and cultural learning that privileged men, and she theorized that philosophy of education reflected an epistemological inequality. She cited taken-for-granted exclusion, devaluation, and distortion of women as subjects and objects of educational thought, along with the field's neglect of questions and problems related to particular educational practices of "care, concern, and connection" traditionally associated with women, which initially she named the "reproductive processes of society," such as childbearing,

child rearing, and homemaking as well as nursing the sick and feeding and comforting others. Her proposed remedies for that canonized flaw were to enlarge the field's notions of sources and methods and to formulate a gender-sensitive educational ideal that took gender into account when it made an educational difference and ignored it when it should make none. Developed through her study of Mary Wollstonecraft's and other women's thought, her theorizing of that new ideal recommended that both sexes should learn both reproductive and productive processes of society. Later studying Maria Montessori and absorbing that language to formulate her ideal of the "schoolhome" as a "moral equivalent of home," Martin questioned school curriculum's reduction to "spectator" knowledge, deployed the Aristotelian golden mean to analyze virtues composing gender sensitivity, and expressed concern about cultural miseducation for "domephobia," a morbid fear and hatred of things domestic, detrimental to all, especially women and children.

Multiple Educational Agency

Critiquing education's conceptual reduction of individuals' knowledge to intentional schooling, Martin has premised all her postmillennial thought on a concept of "multiple educational agency" that decentralizes educative power. This original formulation acknowledges myriad cultural sites of learning besides schools, colleges, and universities—such as homes, mass media, libraries, museums, music halls, theaters, zoos, parks, camps, prisons, clinics, and places of worship and work—whose "cultural stock" may generate either "cultural assets" or "cultural liabilities." Especially evident in learned dispositions toward hatred or violence, cultural miseducation occurs through multiple educational agencies, whenever cultural assets fail to be transmitted, or whenever cultural liabilities are transmitted from one generation to the next. Martin calls for educational research in the form of "cultural bookkeeping" to identify such cultural assets and liabilities and value cultural wealth. Beginning in earliest infancy, individuals undergo educational metamorphoses as they make internal and external "culture crossings" that transform their identities—which may include gender crossings. Thus, conceiving culture as curriculum, Martin has reconfigured education as a maker and shaper of both individuals and cultures, via any "encounter" between an individual and a culture in which both individual and culture change, by coupling (or uncoupling) one or more of that individual's capacities with (or from) one or more items of cultural stock. On Martin's view, such individuals may include nonhuman animals, for she rejects the nature/culture divide. In bringing the two perspectives of individual and culture to challenge the deep structure of educational thought, Martin's reconfigured understanding of education may effect a third paradigm shift in philosophy of education.

Susan Laird

See also Aristotle; Gender and Education; Hidden Curriculum; Montessori Education; Rousseau, Jean-Jacques; Scheffler, Israel; Wollstonecraft, Mary

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Marx, Karl

Karl Marx (1818–1883) has never ceased to be controversial. Often said to have lost their relevance, his ideas again attract attention as the capitalist system faces new crises in the 21st century. His presence across philosophy, economics, and politics remains unique, and the power of his critique of modern Western society is seen in debates over the aims and

functions of public education. This entry focuses on Marx himself rather than on "Marxism," a broad and diverse tendency that often departs considerably from its sources in Marx's writings. It outlines his ideas on education and locates them within his thought as a whole.

Marx's origins provide few predictors of his life's work. Born in Trier to a Jewish family recently converted to Christianity, he received an academic schooling and gained a doctorate in philosophy from the University of Jena. From then on, Marx's rebellious spirit led him in other directions. As a liberal newspaper editor, he experienced official censorship firsthand. Forced into exile in Belgium and then France, he was drawn to the emerging socialist movement and concluded that, unable to solve its own problems, philosophy must be replaced by political action: "The philosophers have only interpreted the world in various ways; the point is to change it" (Marx & Engels, 1975–2004, Vol. 5, p. 5).

In 1848, Marx and his lifelong collaborator Friedrich Engels were asked by a short-lived communist group to prepare a statement of its platform. The result was *The Communist Manifesto*, a brilliant blend of social analysis and fiery polemic. But when revolutionary turmoil in Europe subsided, a period of political reaction followed. After moving to London, where he remained, Marx turned to the task that occupied the rest of his working life: an analysis of the capitalist mode of production that is also a critique of political economy and a rationale for socialist revolution. By the time he died, just one volume had appeared in print. It was left to Engels and others to edit and publish a vast collection of further drafts, and to later socialists and communists to dispute possession of Marx's intellectual legacy.

From Philosophy to Political Economy

Not until the 20th century did access to Marx's early philosophical writings reveal his full theoretical trajectory. Although influenced by the idealist Georg Wilhelm Friedrich Hegel and even more by Hegel's materialist critic Ludwig Feuerbach, Marx develops his own social critique in the "Economic and Philosophical Manuscripts" of 1844. His aim is to expose the human cost of a social system based on private property, in which everything can be bought and sold, including uniquely human talents and qualities. The outcome is what in English is called *self-estrangement* or *alienation*. These expressions imply sharp divisions: We are separated from other men and women, from our own labor as well as its products, and from our "species-being," Feuerbach's term for our shared human nature.

To 20th-century readers, *alienation* seemed an apt label for the discontents of mass society. But Marx's alienation is not just a state of mind: rather, of the whole person. Within the modern school, alienation in this sense is seen not primarily in the problem student, failure, or dropout, but precisely in the normal, well-behaved, and "successful" student, who has grasped that even learning can be brought to market for a price.

Marx's contributions to educational thought arise out of his social theory. Implicit in this are philosophical commitments: to an antimetaphysical realism, a "dialectical" logic, and an insistence on the social and historical character of human nature. Marx rejects the determinism of Enlightenment materialists such as Robert Owen, for whom upbringing and education are "omnipotent" in forming individual character. He objects that this doctrine forgets that "the educator must himself be educated" and so leaves the source of social change a mystery. Marx's alternative is what he calls *revolutionary praxis*, a mode of activity combining critical theory and social practice and capable of transforming the agent as well as circumstances. Later writers such as Paulo Freire have found inspiration in this conception, applying its logic to both pedagogy and political leadership.

However, a purely philosophical view of Marx would be untrue to his intentions and a distortion of his thought. His central achievement lies in political economy. It is a work whose demands have deterred many readers, although those who persevere are rewarded by discovering a great historical drama unfolding before them, together with its theoretical dimension. This is the first volume of *Capital*, published in 1867. Marx analyzes the economic basis of the capitalist mode of production and describes its rise to dominance in one country, Great Britain. In a historical chapter, he analyzes the social changes that came with the Industrial Revolution and gave rise to political developments like the British Factory Acts, which laid down regulations for the employment of labor in factories, mines, and workshops—including young people's work and schooling.

One theoretical issue in *Capital* is how a seemingly fair and above-board exchange of labor for wages can give rise to a one-sided distribution of wealth in society that seems very unfair. Marx's solution involves distinguishing between the "surface"

of society and underlying processes that turn out to involve an appropriation of unpaid labor. This is one illustration of his concept of *ideology*. Ideologies are false beliefs, but they are grounded in experience. As with optical illusions, appearances do not disappear even when known to be misleading. Yet by attaining a broader picture, we can correct our immediate impressions. According to later Marxian writers, schooling has its own ideology, one that attributes the success or failure of students to individual talents and traits, without acknowledging patterns of disadvantage grounded in social class. Here too, everyday experience supports beliefs that justify a status quo marked by systematic inequalities.

Marx and Public Schooling

In 1864, Marx returned to political activity as a leading member of the London-based International Working Men's Association. He prepared a policy on young persons' labor adopted at its 1866 conference. This document opens by claiming the absorption of women and children into the workforce to be "a progressive, sound and legitimate tendency" and goes on to offer specific proposals for ensuring the education of child workers.

To modern readers, Marx's favorable attitude to child labor comes as a surprise. He sees advantages in the combination of work and schooling required by the Factory Acts. The school's "mental" curriculum can be confined to basic literacy and numeracy, avoiding the danger of moral and religious indoctrination. Disagreeing with other socialists, Marx suggests that children will learn "the value of labor" and gain an awareness of social class relations not in a schoolroom but through engaging in paid employment. He sees other benefits in children's work as well: Practical skills are best learned early, and they contribute to an all-round personal development. Marx's approach leaves out any recognition of play as "the work of the child," a common theme in child-centered approaches to education. He looks forward to a society in which work will be "self-activity" rather than alienated labor—yet it will still be work and not a pastime as he thinks utopian socialists imagine. Marx's motto for a future society, "From each according to his ability, to each according to his needs," expresses a work ethic that influences his attitude to education, since it applies to children as well as adults.

Later International Working Men's Association conferences failed to follow up this policy for public education. However, Marx took part in lively debates on the subject in the Association's central committee, and records of these meetings throw further light on his ideas about schooling.

The Polytechnical Principle

The most striking and influential element in Marx's proposed curriculum is usually called "polytechnical" education. It is a program of training designed as an alternative to vocational specialization. To understand this, however, some background is needed.

Marx believed that the Industrial Revolution had brought about changes in material production that must be reflected in any future education. In earlier periods, labor often depended on skills such as weaving, spinning, shoemaking, and so on. The tendency of machinery is to remove the need for skill and strength on the part of the worker: Both are, so to speak, built into the machine's design. The obsolescence of craft skills means an abolition of specialized training. That might seem a backward step, and in some ways, Marx thought it was, but in others, he saw it as highly progressive. For political economists such as Adam Smith, the division of labor is a crucial means of increasing productivity. At the same time, they draw attention to the bad effects of excessive specialization on the individual, accusing it of producing fragmented and one-sided human beings. Smith suggests that public education can contribute to a solution, but he provides few details. In contrast, Marx sees an opportunity for a new kind of education. He refers to it variously as "technological," "technical," and "industrial" training, but the term most used later is *polytechnical education*.

What Marx proposes is a "technological training which imparts the general principles of all the processes of production, and simultaneously initiates the child and young person in the practical use and handling of the elementary instruments of all trades" (Marx & Engels, 1975–2004, Vol. 20, p. 189). Such a curriculum has a theoretical and a practical component. It includes enough basic scientific knowledge to provide an understanding of the kinds of machine production that exist in modern society, and it also involves actual participation in these processes of production.

That sounds like an ambitious program, but in Marx's view, the tendency of machine production is to rationalize and simplify the work process to such an extent that one industrial occupation will not be

totally different from another. With the development of automation in the 20th century, the advance of machinery has certainly continued. On the other hand, the elimination of specializations is only half the story. New kinds of labor arise from technological innovation, an eventual stumbling block for attempts to introduce polytechnical training in Russia after the 1917 Revolution.

Still, Marx can claim to be providing a new approach to an old theme: the humanistic ideal of the many-sided but balanced personality. In the German tradition, this is the notion of *Bildung*. In Marx's version, the concept is radicalized through being linked with material production. With the arrival of machinery, he thinks that the amount of time needed for labor can be reduced sharply. Besides this, the kind of work done can be humanized by combining theory and practice and by engaging not in one kind of labor but in different kinds that develop various aspects of personality. The outcome will be a development of all-round skills and capacities that, Marx asserts, "will raise the working class far above the level of the higher and middle classes" (Marx & Engels, 1975–2004, Vol. 20, p. 189).

The State and Education

A political issue running through Marx's thinking on education is the role of the state. His early writings assume a view that he later repudiated: the Hegelian concept of a state that transcends the divisions of civil society. In *The Communist Manifesto*, the state is seen not only as the product of class society but as an instrument used by one class to dominate others. This sharp judgment poses problems for Marx in discussing public education. It implies that any school set up by the state must be bound up with class domination—and yet for the financial and organizational resources needed to establish general education, there seems to be no alternative to government provision.

In later political debates, Marx attempts to chart a course between these poles. His 1875 *Critique of the Gotha Program* condemns those who, as he puts it, want to make the state "the educator of the people" (Marx & Engels, 1975–2004, Vol. 24, p. 97). At the same time, he rejects his anarchist rival Mikhail Bakunin's call for a complete withdrawal from existing political structures, including state education, on practical grounds. Such a misuse of high-sounding principles, Marx responds, would simply condemn the working class to illiteracy and ignorance.

What he wants is a public education that involves state *support* but not state *control*. Such a system, he points out, already exists in at least one country—the United States—where schooling is decentralized, subsidized, and financed by the state but not directly provided by it. He is aware that a locally based school system is in danger of varying too much from one area to another but considers that state-appointed inspectors can ensure the maintenance of minimal standards. As with the polytechnical principle, he prefers to appeal to existing realities as the basis for educational reform rather than proposing utopian solutions.

In *Capital*, Marx speaks of "the necessity for abolishing the present system of education" (Marx & Engels, 1975–2004, Vol. 35, p. 491). The German word translated as "abolishing" is *Aufhebung*, which has a more complex meaning in Hegelian philosophy. It stands for a process in which something is transformed or raised to a higher level—a kind of abolition, one may say, but equally a preservation. A dialectical philosophy will argue that this process is driven by a conflict (or "contradiction") between opposites. Thus, when the young Marx calls for an *Aufhebung* of both philosophy and religion, he means that the human concerns that they represent in distorted ways need to be readdressed through the struggle for a more authentic community. His conclusion is that the real alternative to religion is not atheism but rather socialism. How does this line of thought apply to "the present system of education?" Arguably, a defining feature of the modern school is its separation from social life and, in particular, from working life. Marx's proposals for school reform are targeted at overcoming the division. Simply eliminating one side (in this case, "deschooling") would not achieve the goal. Instead, the polytechnical principle and the combination of learning with labor address a broader task set for the school: a reclaiming of education's essential links with the life of society. In this sense, Marx may be seen as a revolutionary influence in education as well as in other areas of social thought.

Robin Small

See also Alienation; *Bildung*; Hegel, Georg Wilhelm Friedrich; Ideology; Productive Labor and Occupations: From Dewey to Makarenko

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Mead, George Herbert

George Herbert Mead (1863–1931) was one of the classical philosophical pragmatists, along with Charles Sanders Peirce, William James, and John Dewey. Mead's work has been influential in social psychology, sociology, and social philosophy and is critical for a naturalistic understanding of mind.

Mead did graduate work with Josiah Royce at Harvard, studied briefly with Wilhelm Wundt at Leipzig, and did further work at Berlin. Afterward, he joined John Dewey as a professor at the University of Michigan. When Dewey left for the University of Chicago, he arranged for Mead to go with him, helping create a strong "Chicago school" there. In Chicago, Mead was actively involved with Jane Addams's Hull House and other social reform efforts.

Mind and Nature

Mead's central project was to get past the conventional dualistic view that mind and nature are categorically different and opposing kinds of things. Since the development of classical mechanics, natural processes have often been viewed in deterministic, mechanical terms, future events being caused by prior events. This makes end-directed behavior, like that exhibited by living things, difficult to understand, since future events, such as an implicitly sought end, appear to control present behavior. Mind, or reflective thought, becomes even more mysterious since it is regulated by abstract objects, like thoughts "about" a perfect circle, that have no existence whatsoever.

Mead's approach to this problem was to adopt a form of emergent interactionism or emergent evolutionism (see also Dewey, 1929/1958). If one sees life as emerging from simpler interactions between nonliving things and reflective intelligence or "mind" as emerging from interactions between simpler organisms, one can (at least in principle) begin to restore continuity between mind and nature. Approached in this way, mind becomes *part* of nature rather than something opposed to it. Since "nature" includes complex processes and functions, like those involved in life and mind, it also becomes something more than a series of mechanical interactions, since new functions and objects emerge as it evolves. As Mead (1934/1967) noted, prior to the evolution of biological life there "would . . . be no food—no edible objects," because there would be "no organisms which could digest it" (p. 77). Similarly, prior to the evolution of symbolically communicating organisms there were no words, laws, or stop signs, all of which are a part of "nature" considered more broadly.

Mead's emphasis on finding continuity between mind and nature can be seen as very contemporary, as limitations of classical mechanics as *the* way to understand natural phenomena become more fully understood (Bateson, 1988; Deacon, 2012; Dennett, 1995, 1996; Prigogine, 1980).

Social Meaning

The key phenomenon that Mead sought to explain was the way human reflective thought and self-consciousness can emerge from simpler forms of communication among animals. The concept of the "gesture," borrowed from Darwin and Wundt, was key to this analysis.

For an act to be successful, its preparatory phases must begin before later phases occur. One's heartbeat and blood pressure must increase prior to urgent action, just as one's legs must be braced before lifting a heavy stone. If these preparatory activities are detectable by other organisms, they can become "gestures," or signs to which the other organisms respond as though indicating the complete act to come. Merely looking at one's dog in a certain way may stimulate it to go to the door as though about to begin a walk. Its going to the door may stimulate you, in turn, to pick up its leash, even though you were not initially intending to do so. A continuing series of signals and countersignals might eventually result in a "walk" being completed together. In another case, such as when two boxers are trying to

block each other's blows, each boxer might respond to a series of feints, which also serve as gestures, or signs of an impending blow, without a single blow being completed.

Mead saw such "conversations of gestures" as the origin of "social meaning." His approach to meaning was a triadic one, drawn from Peirce, in which meaningful signaling necessarily involves three terms, a sign, an interpretant, and an object. As Mead (1934/1967) put it,

> The logical structure of meaning . . . is to be found in the threefold relationship of gesture [sign] to adjustive response [interpretant] and to the resultant of the given social act [object]. Response on the part of the second organism to the gesture of the first is the interpretation—and brings out the meaning—of that gesture, as indicating the resultant of the social act which it initiates. . . . This threefold or triadic relation between gesture, adjustive response, and the resultant of the social act which the gesture initiates is the basis of meaning. (p. 80)

The initial glance at the dog might be a gesture (sign) that means a "walk" when interpreted by the dog's going to the door (the interpretant).

This trinary approach to meaning suggests that signs must be interpreted in the light of their practical implications for conduct if they are to have clear meaning (Peirce, 1878/1923). The relationships figuring in meaning are not merely a binary relationship between signifier and signified, or sign and object. Any sign can mean far too many things, so its meaning must be interpreted in context. The dog's response to your look gives it a certain interpretation, just as your response to its walking to the door gives an interpretation that may or may not confirm its interpretation of your look. The potential meaning of such signs develops out of habits of mutual interaction, just as their actual meaning in a particular instance is worked out in social interaction. As a result, meaning is not something enclosed in the skull. Rather, "the basis for meaning is objectively there in social conduct, or in nature in its relation to. . . . conduct" (Mead, 1967, p. 80). The meaning of gestures, or social signs, is how they function in social interaction.

This approach to meaning also makes clear that meaningful signaling requires at least three events and cannot be reduced to a binary mechanical relation, like force and acceleration or cause and effect. If we are to understand mind, a different framework is required that involves a sign, an interpretant, and the subsequent completion of an act confirming (or disconfirming) the interpretation of the sign.

Mind and Self

Mead saw the development of social meaning as the substrate from which reflective processes, such as "mind" and "self," can emerge. Vocal gestures are key to this development since they can be perceived by the organism emitting them as well as by other organisms, while other kinds of gestures, such as facial expressions or bodily postures, cannot be perceived very well by the emitting organism. Although a vocal cry might seem very different from a bodily posture, Mead treated it as a "gesture," or signal of likely behavior to come, like any other.

If a vocal gesture's implicit meaning is contradicted by an unexpected response from another organism, the emitting organism may become conscious of the meaning of its utterance to another—since it can both hear its own utterance and perceive the surprising response to this signal by another, the conflict stimulating conscious attention. This can lead to interpreting the meaning of one's gestures in light of their meaning for others. When a sign comes to play a similar role for two or more interactants, allowing them to consciously signal one another in a way that has the same meaning for both, it becomes a "significant symbol," an element of language.

> When, in any given social act or situation, one individual indicates by a gesture to another what this other individual is to do, the first individual is conscious of the meaning of his own gesture. . . . insofar as he takes the attitude of the second . . . toward that gesture, and tends to respond to it implicitly in the same. . . . Gestures become significant symbols when they implicitly arouse in an individual making them the same responses which they explicitly arouse, or are supposed to arouse, in . . . the individuals to whom they are addressed. (Strauss, 1934/1964, p. 173)

If one can take the role of the other and respond to one's own gestures as another would, one begins to engage in a "conversation of gestures" with oneself. This conversation of gestures with oneself, in which one responds to the meaning one's gesture would have for others, *is* reflective thought. It is not just a sequence of meaningless vocalizations, however, but an interplay of beginnings of acts, whose meaning is responded to in subsequent gestures, the result having to be literally *worked* out. Considered

in this way, thinking is an embodied and emotionally significant social process even though engaged in by only a single organism.

The same social process enables one to treat oneself as an object, acting toward one's own characteristics or behavior in terms of their likely meaning for others. One combs one's hair and judges the likely impression on others, for example. Mead viewed the "self" as a reflective process whose active phase, the "I," does something whose meaning is perceived and judged by the passive or observing phase, the "me." Together, the "I" and the "me" make up the *process* of the "self," which is primarily concerned with adjusting one's relation to others, who engage in similar adjustive processes in return.

Education

In showing mind, or reflective thought, to be a social process deriving from concrete social interactions, Mead helped ground thinking in embodied participation in social activities. By showing mind to be both embodied and social, he helped correct the two greatest flaws in the conventional Cartesian view of mind (Bredo, 1994; Damasio, 1994).

The conventional conception of mind aligns with a conventional conception of education. If mind is disembodied reasoning engaged in by separate individuals, then students should sit still and work alone, the body—and other individuals—being sources of interruption that need to be controlled.

If mind, however, is an inherently social process involving the use of symbols having (potentially) common meaning that are used to do things together, then one needs to participate in cooperative social practices in order to learn the use and meaning of symbols. When Mead (1910/1964) looked at conventional schooling, he saw it as tending to focus on tasks divorced from the life of the child and the life of the community, resulting in social relations being used primarily to enforce compliance with meaningless activity (p. 120).

The remedies he proposed were much like Dewey's (1900/1956)—to make schooling more social and interactive so that it related better to the life of the child and the community. Early schooling could be more playful and imaginative, focusing on questions arising in the child's experience that can be explored together. According to Mead, school should also be more connected to the life of the community, so children had a better sense of its relation to communal roles and values, much as those in traditional societies did when going through initiation ceremonies. As Mead (1910/1964) put it,

> The process of schooling . . . cannot be successfully studied by a scientific psychology unless that psychology is social. . . . So far as education is concerned, the child does not become social by learning. He must be social in order to learn. (p. 122)

Eric Bredo

See also Dewey, John; Evolution and Educational Psychology; James, William; Spectator Theory of Knowledge

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MENCIUS

Mencius (372–289 BCE), born in China 100 years after Confucius's death, is the second great sage of Confucianism. His teachings and conversations are recorded in *Mencius*, which is one of the four canonical works of Confucianism.

Mencius accepted Confucius's philosophy but developed it in new directions, made it a more complete and unified philosophical system, added needed rigor, and bolstered Confucian insight with supportive argumentation. His philosophy of education is based on his theory of human nature, which is his most significant contribution to Confucianism. According to Mencius, all human beings have, as part of their innate nature, the capacity to be good. This capacity needs to be cultivated if individuals are to be virtuous. Accordingly, education consists in the cultivation of the capacity to be good and thus aims at making people virtuous. As a joyful and desirable activity, Mencius says, teaching people to be virtuous is second only to serving one's parents well.

Goodness, Human Nature, and Education

Mencius argues that goodness results from perfecting our innate nature. The "sprouts" of the virtues, he says, are innate in human beings and "grow" from the "seeds" of benevolence, righteousness, propriety, and wisdom implanted in us. Consequently, education should aim at cultivating such virtues. Emotions and attitudes are particularly important in education and as components of virtue: Feelings of genuine compassion, of disdain, and of deference are requisite, as are attitudes of approval and disapproval. People do not always act appropriately on the basis of these feelings and attitudes and may not even have the appropriate feelings or attitudes; if they did, education would not be necessary. Still, he argues, even if the appropriate feelings and attitudes are only spontaneous and fleeting in some people, they are common to everyone. If, for example, a person were to see a child about to fall into a well, she would spontaneously feel compassion for the child. Such a feeling is neither one of self-interest—caring for the child only because one cares for oneself—nor one of selfishness—not caring for the child at all. Some element of compassion, however small, is thus part of us all. In his own way, Mencius is arguing for the same view that Western moralists, such as Bishop Joseph Butler, argued for almost 1,500 years later: Self-interest is not the only motive that prompts human action, and conscience is part of human nature.

To cultivate the virtues, then, education should be focused on feelings and attitudes. Both bean sprouts and the "sprouts" in the human heart need nurturing to flourish. With proper nurturing, such sprouts naturally grow and flourish by themselves. But in both cases, a desire to flourish and a good environment are needed. Education consequently requires both societal oversight and individual effort.

The Environment and Education

Even though human beings have a natural capacity to be good, that capacity can easily be damaged or destroyed. Mencius regards the innate feelings and attitudes of compassion, disdain, deference, and approval and disapproval as sprouts and compares them with limbs. If we know that we have limbs and properly nourish and exercise them, they will be healthy and function properly. As far as the cultivation of virtue is concerned, the primary nurturing element is the environment.

A good environment includes a government or ruler who can ensure that there is sufficient material wealth and leisure for citizens. Education or moral cultivation is not simply a task for educators and families, but for society as a whole. Sprouts on a mountain need moisture and sunlight to grow, and sprouts in a human heart need a supportive environment, including decent living conditions. If people cannot support themselves adequately, Mencius argues, they will lack the constancy of purpose needed for virtue and will do evil things. Only with a sufficient livelihood will people be able to serve their parents and to support their families. In fact, Mencius believes that this material substratum should be ensured prior to moral instruction.

A good environment also includes ethical guidance from the rulers and sages. Like Confucius, Mencius believes in the transformative power of the virtues of rulers, sages, and moral exemplars. The virtues of such people are like rainfalls that transform sprouts. The virtues themselves are thus one mode of moral instruction. The filial piety of a son transforms the father, the family, and other members of the community; the benevolence of a ruler

transforms the citizenry. Conversely, a bad government or corrupted society damages the innate capacity for goodness, which, being violated, cannot grow.

Individual Effort

Aspiration and individual effort also are necessary for flourishing. Without aspiration, moral cultivation cannot begin. Individual effort refers, in part, to learning from the teachings of sages and emulating them, especially in the examples they set. However, individual effort goes beyond this. Critical reflection also is needed, for without it people can easily fail to be virtuous. By "reflection," Mencius means the process of understanding one's own feelings and actions in particular circumstances and using that understanding in similar cases that require similar actions.

Assistance in Reflection and Socratic Method

More than anything else, the necessity of reflection points to the significant role of teaching in Mencius's philosophy. Since virtue is the result of the cultivation of an innate capacity, and an innate capacity is not something teachable, in an important sense, Mencius does not regard virtue as teachable. But since the assistance of teachers is necessary for reflection, teaching is necessary for virtue. In fact, for Mencius, teaching is essentially assistance in reflection. Aspiring individuals typically do not know how to reflect in a way necessary for the cultivation of virtue, even if they read the teachings of the sages and try to emulate the examples they set. A teacher is needed to instruct aspiring individuals in reflection, and "the method of questions and answers," similar to the Socratic method of *elenchus*, is the principal way by which Mencius conducts such instruction. According to Mencius, this pedagogical method does not merely work for him but is the preferred method of moral instruction for all teachers. Its effectiveness is well illustrated in Mencius's conversation with King Xuan. King Xuan saw a frightened ox about to be executed in a ritual, felt strong compassion for the ox, and ordered a sheep be put in its place. The king had fleeting and unreflective compassion for an animal he saw in front of his eyes but felt nothing for the sheep that he had not seen. He was not aware of the nature and depth of his feeling and action. Realizing this, Mencius used *elenchus* to clarify, for the king, the nature of his action as an expression of compassion and encouraged him to extend his compassion to his people, who deserved help from their king. Answering Mencius's questions, King Xuan understood, and the sprouts in his heart grew. Mencius completed his teaching by exhorting the king to be a benevolent, and not just a compassionate, ruler.

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See also Character Development; Confucius; Self-Regulated Learning; Socrates and Socratic Dialogue; Virtue Ethics

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Merleau-Ponty, Maurice

See Phenomenology

Metacognition

The idea of learning how to learn is quite old and can be traced back to the Socratic method of questioning; over the past four decades, though, this idea has been incorporated under the scientific term *metacognition*. This modern conceptualization is credited to the developmental psychologist John H. Flavell, the "father of the field," and it has become one of the major foci of psychological research.

Today, metacognition is referred to in different disciplines, in different ways, and it is studied from a variety of perspectives. These include developmental psychology (e.g., theory of mind), experimental and cognitive psychology (e.g., metamemory), educational psychology (e.g., self-regulated learning), neuropsychology (e.g., executive functions and prefrontal brain areas), social cognition (e.g., human interactions), clinical psychology (e.g., reflection on thoughts and actions), as well as with coregulation and other regulation of behavior and cognition, and

research in animal metacognition (e.g., "theory of mind" in chimpanzees; Efklides, 2008).

But what is exactly the nature of metacognition? What is the function of this mental capacity? How is it related to cognition itself, to learning, to critical thinking, to academic performance? What is the content and epistemic status of metacognitive assessments? Is it conscious or unconscious? Can it be taught, and how? Some of these questions are tackled in the remainder of this entry.

Definition of Metacognition

Although *metacognition* has become a fashionable term that names a hot research area, one that has produced promising teaching strategies, giving a definition of the term has proved to be a complex task; a generally accepted definition can hardly be found in the literature. It seems that any attempt to discuss the nature of metacognition is inevitably linked to the problem of distinguishing between what is "meta" and what is "cognitive" (Georghiades, 2004).

As traditionally defined, metacognition is thinking about thinking or the monitoring and regulation of thinking. Initially, Flavell (2000) referred to metacognition as "knowledge that takes as its object, or that regulates, any aspect of any cognitive endeavor" (p. 16). But since Flavell's first attempt to define the term, many different accounts of metacognition have appeared in the literature; here is an incomplete sampling: Metacognition includes the estimation of one's own mental activities, planning, monitoring, and evaluation; metacognition is "thoughts about thoughts"; it is "understanding and controlling cognitive activity"; and it is "information about an individual's cognitive system." In sum, it seems that metacognition can be considered as an awareness of one's own thinking processes and how these can be controlled (Aydin, 2011).

Another complexity is that gradually the definition of metacognition has been broadened and now includes not only "thoughts about thoughts" and cognitive states (as it was initially conceptualized) but also affective states, motives, intentions, and all those states related to cognitive phenomena, as well as the ability to consciously and deliberately monitor and regulate them (Papaleontiou-Louca, 2008). That is, the concept has been broadened to include anything psychological, rather than just anything cognitive. For instance, if one has knowledge or cognition about one's own emotions or motives concerning a cognitive enterprise (e.g., being aware of your own anxiety while solving a problem in an exam paper), this can be considered metacognitive. In fact, more recent literature completes the term, by adding to its cognitive domain the emotional one—referring to the emotions *that accompany the cognitive processes* and the person's ability to monitor them.

Various Distinctions in the Concept of Metacognition

Although metacognition may have rather vague boundaries, key distinctions can be made that help clarify the literature:

First, there is the well-known distinction between metacognitive knowledge (knowing about what you know) and metacognitive processes (knowing how to regulate what you know). In other words, we can distinguish between knowledge and skills—between "knowing that" and "knowing how," the old distinction between theory and practice, and between competence and performance. For example, the theoretical aspect of "knowing that" might be that a student can distinguish relevant from irrelevant information in a problem, and the practical aspect might be the ability to do this in practice, perceiving what is relevant in a "noisy" environment. Similarly, one may "know that" different strategies can be applied in different problems, and another might "know in practice how" to select the suitable strategy, when needed, to resolve a problem (Papaleontiou-Louca, 2008).

Ann Brown (1987) distinguishes between knowledge about cognition and regulation of cognition. *Knowledge* about cognition can be information that human thinkers have about their own cognitive processes, which usually remains relatively consistent within individuals. *Regulation*, on the other hand, refers to activities used to regulate learning. One may show self-regulatory behavior in one situation but not another; and a child may show self-regulatory behavior where an adult does not. Regulation may also be affected by patterns of arousal (anxiety, fear, interest) and self-concept (self-esteem, self-efficacy). Self-regulation processes include planning activities (predicting outcomes, scheduling strategies and various forms of vicarious trial and error, etc.) that are engaged in *prior to* undertaking a problem; monitoring activities (monitoring, testing, revising, and rescheduling one's strategies for learning) *during* learning; and checking outcomes (evaluating the

outcome of any strategic actions against criteria of efficiency and effectiveness) *at the end*.

Similarly, Kluwe (1982) gives an account in which metacognition is constituted by two basic activities: "(a) the thinking subject has some knowledge about his own thinking and that of other persons; (b) the thinking subject may monitor and regulate the course of his own thinking, i.e., may act as the causal agent of his own thinking" (p. 202). Moreover, Kluwe uses the term *executive processes* to include both monitoring and regulating strategies. Executive *monitoring* processes involve one's decisions that help (a) identify the task on which one is currently working, (b) check on current progress of that work, (c) evaluate that progress, and (d) predict what the outcome of that progress will be. Executive *regulation* processes are those that are directed at the regulation of the course of one's own thinking. They involve one's decisions that help (a) allocate his or her resources to the current task, (b) determine the order of steps to be taken to complete the task, and (c) set the intensity or (d) the speed at which one should work the task.

In addition, while attempting to clarify some of the obscurity covering metacognition, Flavell (1976) distinguishes between two key aspects: (1) knowledge and beliefs about cognitive processes on the one hand and (2) the deliberate or conscious orchestration of cognitive functions on the other. Flavell (1981) also makes another important distinction between (a) metacognitive knowledge and (b) metacognitive experience:

Metacognitive knowledge is that part of one's knowledge that refers to cognitive matters, a part of one's accumulated world knowledge that has to do with people as cognitive agents and their cognitive tasks, goals, actions, and experiences (Flavell, 1981). Some examples of this kind of metacognition are when you are able to describe your understanding of what goes on, or to explain and recognize feelings of uncertainty or confusion in some people. Flavell differentiates this kind of knowledge further to include person, task, and strategic variables (Papaleontiou-Louca, 2008).

Metacognitive experience, on the other hand, refers to conscious feelings during some cognitive activity that relate to the process—for example, during a communication task, feelings that you do or do not understand; or feelings making you hesitant about the choice you have made, comprise conscious experiences that can be either *cognitive* or *affective* and are pertinent to an ongoing cognitive situation or endeavor (Flavell, 1987).

Attempts to clarify the nature of metacognition continue in the literature; in a review paper, Flavell (2000) divided metacognitive theory into two areas: *knowledge* and *processes*. Metacognitive knowledge includes understanding of how minds work in general and how a particular mind works. The processes of planning, monitoring, and regulating thoughts are generally known as *executive processes*, which involve the interaction of two levels: At one level is the creative, associative, wandering mind and above it is the executive, trying to keep it on task. It is important to note here that "theoreticians seem unanimous—the most effective learners are self-regulating" (Butler & Winne, 1995, p. 245). Key to effective self-regulation is accurate self-assessment of what is known or not known. Only when students know the state of their own knowledge can they effectively self-direct learning to the unknown.

Several other issues that continue to be discussed in the literature are whether or not metacognition is necessarily a conscious process and where the boundary between cognition and metacognition should be drawn. And, of course, the relevance of metacognition to education and learning—and it is to this work that the discussion must now turn.

Metacognition and Learning

The great interest in metacognition stems from the widespread belief that students ought to be lifelong learners, equipped with the skills necessary both to solve problems in school and to extrapolate these skills into life through understanding their own thinking, learning, and strategic approaches to problem solving. Thus, today, as noted by Fatih Aydin (2011),

> One of the main goals of education is to make the students gain the thinking skills and strategies which they will use throughout their lives, rather than storing information. A good education should be able to show the students how to learn, how to remember, how to motivate themselves and how to control their own learning, so that they can teach themselves how to learn. (p. 274)

There is extensive evidence that learners' metacognition can directly affect their learning (for a sampling, see Boekaerts, Pintrich, & Zeidner, 2000; Winne, 1995).

Moreover, the ability to effectively manage one's learning seems to lead to success in and beyond school and accuracy in self-evaluation (which is a metacognitive skill) was found to be related to

school performance in adolescence (Demetriou & Kazi, 2001).

Teaching students thinking strategies and metacognitive skills will lead them to pursue their own learning throughout their education and their life. Students *and* teachers need to engage in active practice on metacognition. Doing so, they become independent learners and gain control over their own learning.

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See also Cognitive Revolution and Information Processing Perspectives; Learning, Theories of; Neurosciences and Learning

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Mill, John Stuart

As a child, John Stuart Mill (1806–1873) was a guinea pig for an extraordinary system of education devised by his father James Mill, who was an associate of the utilitarian Jeremy Bentham and an important social thinker and philosopher in his own right. James hoped to make his eldest son a leading thinker in the next generation of the Benthamite Philosophical Radicals. John began studying classical Greek at the age of three and Latin at the age of eight. At eight, he also began teaching his younger siblings. He was isolated from other children, and his mother played little part in his life. By 14, he had read most of the well-known works of classical civilization, made a wide survey of history, and had worked extensively in logic and mathematics (Capaldi, 2004, pp. 6ff.; Wilson, 2012, § 1).

Not entirely surprisingly, he suffered a severe case of depression at the age of about 20, which he attributed to his father's intense pressure and lack of emotional support. He began to recover while reading a passage from Marmontel's *Mémoires d'un père* and was helped by Weber's opera *Oberon* and the poetry of Wordsworth. He tells the story of his education in Chapters 1 and 2 of

his *Autobiography* (1873) and that of the later crisis in Chapter 5. Varying lessons about intensive education have been drawn from each story.

As an educational theorist, Mill's most important writing comes in the second chapter of *On Liberty* (1859/1961), a work which he wrote with his wife Harriet (née Hardy, the widow of John Taylor) and published shortly after her death. Unlike many writers on education, Mill focuses on the central issue of what it is for students to understand something. Mill concludes, as Plato had concluded in the *Meno* (98a3, 1956, p. 154), that the essential thing is that they must know the reasons for what they believe: "If the cultivation of the understanding consists in one thing more than another, it is surely in learning the grounds of one's own opinions" (chap. ii, para. 23, p. 286). In mathematics, this requires following a proof rather than merely learning the theorem; but in subjects other than mathematics, it will involve joining in an active controversy (either real or feigned) in which different views contend. In what to a modern reader seems like an anticipation of the view popularized by Karl Popper, Mill explains that we must be aware of what opponents of our own view would say, because

> he who knows only his own side of the case, knows little of that. His reasons may be good, and no one may have been able to refute them. But if he is equally unable to refute the reasons on the opposite side; if he does not so much as know what they are, he has no ground for preferring either opinion. (chap. ii, para. 23, p. 287)

Mill also anticipates the notion, often hailed as a new discovery even today, that theory in the natural sciences is underdetermined by evidence—that there are many theories or hypotheses that are compatible with a given body of evidence. Mill points out that experience alone is not decisive, and there needs to be discussion about how the experience is to be interpreted. Here Mill is close to anticipating what would emerge more than a century later as an important crux in philosophy of science and in philosophy of language, namely, that uninterpreted experience cannot play any cognitive or semantic role and that a purely observational language is impossible. All terms are theoretical, though some may be observational as well.

The learner must join in controversies, not merely witness them at second hand; to do justice to rival arguments, he must learn them from individuals who actually believe them and who do their utmost to defend them (chap. ii, para. 23, p. 287). Furthermore, it is the possibility, and as far as possible the actuality, of argumentative combat that keeps what is learnt alive—a point Mill made in memorable prose "Both teachers and learners go to sleep at their post, as soon as there is no enemy in the field" (chap. ii, para. 29, p. 292). There is still opposition to addressing controversial issues in the classroom, let alone expecting school children to engage in the controversies; though some philosophers of education, for example, Hand and Levinson (2012) maintain Mill's enlightened position.

If an opinion is not regularly debated, Mill warned, the very meaning of the terms in which it is expressed will evaporate like a mist, and the opinion will collapse into a dead formula, readily repeated but as no more than a sequence of mere sounds without meaning. Even important truths can lose their meaning; without frequent and open discussion they will become mere dogma (chap. ii, para. 21, p. 285). Writing in mid-19th-century England, Mill cheekily chose his examples from Christian dogma, avowed widely by the overwhelming majority of the population.

> All Christians believe that the blessed are the poor and humble, and those who are ill-used by the world; that it is easier for a camel to pass through the eye of a needle than for a rich man to enter the kingdom of heaven; . . . They are not insincere when they say that they believe these things. They do believe them, as people believe what they have always heard lauded and never discussed. But in the sense of that living belief which regulates conduct, they believe these doctrines just up to the point to which it is usual to act upon them. (chap. ii, para. 28, p. 291)

Not only is discussion necessary for preserving the meaning of an opinion, according to Mill, it is essential to its authority as a purported truth. It is tantamount to assuming one's own infallibility, Mill held, to undertake to decide a question for others, without allowing them to hear what can be said on the other side (chap. ii, para. 11, p. 275).

Mill's recommendations for curriculum in his *Inaugural Address Delivered to the University of St Andrews* (1867) are also worthy of note. History, geography, and modern languages, he thought, could and should be picked up outside school. The classical languages, mathematics, natural sciences

(particularly physiology), logic, the arts, and moral philosophy would be parts of the education provided at his university and required before the student went on to training for one of the professions. What was most important was to free one's mind from conceiving of education as absorption of views handed down by an authority. For Mill,

> The proper business of an University is different: not to tell us from authority what we ought to believe, and make us accept the belief as a duty, but to give us information and training, and help us to form our own belief in a manner worthy of intelligent beings. (p. 40)

It would be encouraging to know that universities, let alone schools, in the 21st century had fully grasped this as their business and engaged their students with the arguments of adversaries who actually believe contrary opinions, defend them in earnest, and do their very utmost for them.

Jim Mackenzie

See also Liberal Education: Overview; Postpositivism; Utilitarianism

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Mixed Methods Research

See Qualitative Versus Quantitative Methods and Beyond

Modernization Theory

Modernization theory has occupied a central position in sociology and related social sciences. Modernization is the process exemplified by contemporary industrialized societies that are characterized by (a) a complex economy and division of labor, (b) the presence of mass communications, (c) both economic and cultural globalization, and (d) a decline in the role of local community together with a decline in the power of traditional social institutions such as social class, religion, and family. Such societies also are characterized by rapid decline in farming, the rise of the industrial proletariat and bourgeoisie, and later-occurring changes from a manufacturing to a service-based economy. Socioeconomic position within these societies becomes heavily influenced by educational attainment.

Modernization theory is not a theory in the sense that it consists of a series of logically interconnected statements generating specific unambiguous hypotheses. It is better understood as an organizing rubric, a collection of diverse and varying related hypotheses that generally contend that as societies develop, they become more open and more achievement oriented; and what people do and think are less tied to their socioeconomic background, social position, and other ascribed characteristics. This theorizing encompasses or intersects with several very general mega concepts: *industrialization*, *postindustrialization*, and *modernity*. In addition, there are varieties of associated concepts that characterize the change to modern society: *rationalization*, *bureaucratization*, *universalism*, *individualism*, *managerial capitalism*, *achievement orientation*, and *postmaterialism.*

Origins and History

Modernization theory has its origins in the social evolutionary theories of the 18th and 19th centuries, in which societies were viewed historically as progressing toward an end point—namely, contemporary European societies. The origin of sociology as a separate discipline can be attributed to the profound

and widespread social changes that were taking place in the wake of industrialization, and Anthony Giddens argues that the political climate from the French Revolution and the economic changes from the Industrial Revolution provided the context for the emergence of the discipline of sociology.

Early sociologists contrasted the change from traditional rural and religious societies with little division of labor to modern, urban, and largely secular industrial societies. The 19th-century social scientists developed a range of dualities and typologies summarizing this change from preindustrial to industrial society. Auguste Comte (1798–1857) argued that modern industrialized societies were entering the "positive" phase of development, with science becoming the dominant mode of inquiry and humanity, at large, the basic social unit rather than the family or the state. There is a universal order and a prevailing sentiment of "benevolence." This contrasted with the earlier metaphysical stage characterized by organized religion, royalty, tradition, and explanations of both natural and social phenomena based on divine will. Herbert Spencer (1820–1903) contrasted "industrial" society with its contractual obligations and complexity to "militant" societies that were simple and ordered and where relationships were based on social norms and tradition. Ferdinand Tönnies (1855–1936) distinguished between *Gemeinschaft* and *Gesellschaft*. *Gemeinschaft* was the general term for preindustrial communities where social ties were intimate and informal and work was limited to a small number of general occupations: farming, soldiering, and some specialized trade and commercial occupations. In contrast, *Gesellschaft* (modern) communities were characterized by formalized ties and impersonal relationships and a large number of occupations. Similarly, Émile Durkheim (1858–1917) contrasted mechanical and organic solidarity. In small preindustrial communities, social cohesion was brought about by shared beliefs and practices: mechanical solidarity. In large-scale industrial societies, social cohesion is maintained by a shared acceptance of the interdependence of social units involved in a complex and specialized division of labor: organic solidarity. Robert Redfield (1897–1958) proposed a folk–urban continuum where folk societies are small, homogeneous, and based on religion, and the division of labor was only defined by age and sex. At the other extreme, urban industrial societies were secular and individualistic. Karl Marx (1818–1883) differentiated societies by their mode of production and pointed out that European societies had progressed from feudalism to capitalism. The changes undermined the social relationships (e.g., loyalty, honor, fealty) that characterized feudal society. Max Weber (1864–1920) saw growing rationalization and bureaucratization as characteristic of modern society, decreasing the influence of social attributes on life chances.

Taking some of the ideas of Weber and functionalist theory, Marion Levy (1966) associates modernization with "rationality, universalism, and functional specificity" (p. 240). Peter Blau and Otis Duncan (1967) also emphasize universalism and science (p. 429). Not only are these changes limited to Western countries, Kerr (1983) and Kerr, Dunlop, Harbinson, and Myers (1964) have argued that industrialization generates convergence between societies with different political and cultural systems: specifically, communist and capitalist societies. According to John T. Dunlop and colleagues, "The logic of industrialization results in advanced industrial societies becoming more alike, despite cultural and political differences, and certainly more alike than any one of them is like a less developed country" (Dunlop, Harbison, Kerr, & Myers, 1975, p. 37).

Daniel Bell (1973) has argued the case for postindustrial society replacing industrialized society. Postindustrial society would embody a meritocracy in which status and income are based on education and skill. Universities would become the arbitrator of class position (p. 410). Bell contrasts modern society to "estate society," in which only the birthright of inheritance allowed access to land and honorable positions in the army and the church (p. 426). Bell argues that in postindustrial society, one principal of stratification, ascription, is replaced by another, achievement (p. 426).

More recently, Ronald Inglehart (1997) reformulated modernization theory, emphasizing four points: (1) change is not linear, (2) modernization theory is not deterministic, (3) modernization theory is not interchangeable with Westernization, and (4) "democracy" is not an inherent aspect of modernization (pp. 10–11). His main contention is that "technological and economic changes tend to be linked with specific types of cultural, political and social change" (p. 11), and these changes move in theoretically coherent and predictable ways. According to Inglehart and Welzel (2005), modernization has changed gender roles, religious

orientations, consumer patterns, working habits, and voting behavior, so that they are increasingly matters of personal choice (p. 3).

Aspects of critical theory also resonate with modernization theory. Following from Weber, Jürgen Habermas has focused on the undesirable consequences of increasing rationalism, Giddens (1990) on "modernity," and Ulrich Beck (1992) argued that modern society is increasingly a risk society because of the hazards and uncertainties created by modernization. Another strand of social theory—reflexive modernity—argues that the foundations of the traditional social order are dissolving, undermining social identities and societal expectations, thus destabilizing contemporary societies. Beck and Elisabeth Beck-Gernsheim (2002) were also concerned with the rise of "individualism," and they posed the question of whether modern citizens are in the process of being released from the forms of industrial society (class, social layer, occupation, family, and marriage).

Similarly, strands of postmodernism are similar to modernization theory in that postmodernists see worldwide processes dismantling older social structures. Postmodernists argue that modernism has run its course and industrial societies are entering a postmodernist phase characterized by "relativism" and a decline in the power of dominant social discourses. But postmodernism has a seemingly contradictory position regarding modernization: On the one hand, it celebrates the withering away of what it sees as capitalist, colonial, patriarchal, and racial hegemonies, but on the other hand, it celebrates cultural differences in ways of knowing, implying that these cultural differences are large and enduring.

Debates Surrounding Modernization

Modernization theory permeates a diverse range of research fields. In many of these, modernization provides the framework for research and has spawned much argument, with researchers endeavoring to substantiate or refute hypotheses that can be sourced to modernization theory. There are debates about meritocracy, secularization, changes in socioeconomic inequalities in education, social mobility, and the importance of class, religion, and region on political behavior.

The meritocracy debate can be understood within the context of modernization theory. The theory implies that cognitive ability is becoming increasingly important in contemporary industrialized societies. Levy (1966) argues that modern societies increasingly require "experts," and cognitive ability is involved in the selection of who these will be (p. 218). One of the major contentions of modernization theory is that as societies become more "modern," religion declines and societies become more secular (Bruce, 2002). Modernization theory also implies that the links between socioeconomic origins and educational attainment will decline over time. Contrary to modernization theory, a variety of arguments are based on the assumption that socioeconomic inequalities in education are not declining. A prominent example is Yossi Shavit and Hans-Peter Blossfeld's *Persistent Inequality* (1993), which argues that there has been no change in the relationship between social origins and educational attainment over the past century in the transition from one educational level to the next.

A central contention of modernization theory is that modern societies are becoming more open, that is, they have more social mobility. Putting this another way, socioeconomic or social class origins are less important as social selection is based on more rational criteria. Cross-national studies on mobility were motivated by the American exceptionalism thesis, that more modern societies—with the United States as the archetypical modern society—show higher levels of social mobility (Lipset & Zetterberg, 1959). After it was found that the American exceptionalism thesis could not be supported empirically, the Lipset–Zetterberg thesis became prominent, contending that the patterning of social mobility is much the same in industrialized countries that have reached a certain level of industrialization although the extent of mobility in different countries is likely to be related to the rates of industrialization and urbanization (Lipset & Zetterberg, 1959, pp. 13, 49). The theoretical background to Robert Erikson and John H. Goldthorpe's *Constant Flux* (1992) is the "liberal thesis of industrialism" (pp. 3–9)—which makes much the same arguments as modernization theory—and also the FJH (Featherman, Jones, & Hauser, 1975) thesis that there is no change in the patterning relative mobility over time and few differences between (developed) countries.

Research in occupational attainment has been largely motivated by modernization theory. Blau and Duncan coined the term *heightened universalism*, which they argue has profound implications for the stratification system increasing the importance of achieved characteristics at the expense of ascribed characteristics, discouraging discrimination and increasing equality of opportunity. It also

encouraged materialism at the expense of spiritualism. The theoretical impetus for more recent cross-national research on occupational attainment is modernization theory.

Much of the work in the domain of political sociology is about changes in the political loyalties of class and other social groups, generating concepts such as *class dealignment* and *class realignment*. These changes are attributed to increased prosperity among working-class voters, declines in class socialization, the expansion of education, and other factors. In the 1960s, the "embourgeoisement" thesis endeavored to explain the decline in working-class support for the British Labour party. Furthermore, political science has a strong focus on partisan dealignment—a weakening of party loyalties and an increase in the portion of voters without a party loyalty—and partisan realignment: a change in partisan loyalties. These processes have been linked to social processes such as the expansion of education and a decline in the role of the family in political socialization.

Space precludes detailing debates in other areas in which the effects of modernization may be occurring. For the labor market, there are debates about changes over time in the gender gap in income, which appears to be declining. Similarly, there appears to be a decline in occupational segregation by gender; and with respect to marriage and partnering, it seems that occupational class, religion, and ethnicity are in many industrialized countries less important influences on selection of the marriage partner, while educational endogamy appears to be increasing.

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See also Cosmopolitanism; Economic Development and Education; Globalization and World Society

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Montaigne, Michel de

Michel Eyquem de Montaigne (1533–1592) was a French humanist philosopher who drew on his own experiences and ideas in his informal musings, called *Essays*, a genre he is said to have invented (the French term *essais* means "trials" or "efforts"). A diplomat and official during much of his life (for a time, he was mayor of Bordeaux), he devoted his later years to writing. The first volume of his work appeared in 1580, and two more volumes were published in 1588. (An amended edition that includes

notations made prior to his death was published posthumously.)

Montaigne was a supple and skeptical thinker whose ideas influenced philosophers from René Descartes to Claude Levi-Strauss. He was also a brilliant writer, praised by Ralph Waldo Emerson and Virginia Woolf, among others, for the naturalness and grace of his style.

Although supremely well educated (his father had him tutored in Latin before he learned French), he was also acutely aware of the gaps and limits to his knowledge—thus his famous declaration: "*Que sais-je*?" ("What do I know?"). Critics have referred to him as the first modern man. One subject where the modernity of his ideas is especially noteworthy is education.

Montaigne addresses education indirectly throughout the *Essays*, but the most direct treatment occurs in Volume 1, Chapter 25, "Of the Education of Children." The essay was originally written as a letter to his friend Madame Diane de Foix, the Countess of Gurson, who was at the time pregnant with her first child.

Montaigne tells the countess that "the greatest and most important difficulty of human science is the education of children" (p. 172). He goes on to advocate for a disinterested program and to warn against living vicariously through her children: "Not having chosen the right course, we often take very great pains, and consume a good part of our time in training up children to things, for which, by their natural constitution, they are totally unfit" (p. 173). He follows with a series of admonitions on what he sees as the best method of teaching and learning. Here is a sample from this long and often digressive exposition:

> Let the master not only examine [his pupil] about the grammatical construction of the bare words of his lesson, but about the sense. (pp. 175–176)
>
> Let him [the master] make him examine and thoroughly sift everything he reads, and lodge nothing in his fancy upon simple authority and upon trust. (p. 176)
>
> Let him [the pupil] examine every man's talent; a peasant, a bricklayer, a passenger: one may learn something from every one of these in their several capacities. (p. 183)
>
> I would have his outward fashion and mien, and the disposition of his limbs, formed at the same time with his mind. (p. 198)
>
> The lad will not so much get his lesson by heart as he will practice it: he will repeat it in his actions. (p. 202)
>
> Let but our pupil be well furnished with things, words will follow but too fast; he will pull them after him if they do not voluntarily follow. (p. 203)

As these statements make clear, Montaigne anticipates many of the principles associated with modern progressive education, a resemblance noted as early as the 1930s. His style bears comparison to that of the American pragmatist philosopher and psychologist William James (godson of Montaigne's great admirer Emerson) in his *Talks to Teachers*. Montaigne's focus on context and experience over rote learning would be central to the work of James's disciple, John Dewey, who codified the idea of "learning by doing."

But Montaigne's pedagogical philosophy is both less systemized and, one might argue, more pragmatic than that of James and Dewey. He often contradicts himself or veers off in unexpected directions. He advises against corporal punishment, for example, but notes that sometimes it may be necessary. He warns against pedantry, yet he is himself replete with quotations from classical sources, something that he is quick to acknowledge. He denigrates an overreliance on book learning, yet he lauds the writing of a great book as the most prized of human accomplishments, above that of having children (possibly owing to the death of five of his six children before they reached adulthood). Montaigne also shows a surprising latitude with regard to a student's behavior: "Let a young man, in God's name, be rendered fit for all nations and all companies, even to debauchery and excess, if need be; that is, where he shall do it out of complacency to the customs of the place" (p. 200).

Montaigne's awareness that what is considered acceptable behavior can vary widely according to the "customs of the place" is a theme throughout the *Essays* (see especially his essay in Volume 1, Chapter 30, "Of Cannibals"). But his tolerance for difference exists within definite parameters. He argues that values and judgment should be taught early, so that exposure to "debauchery and excess" will not debauch character. Montaigne also represents the student's early training as the groundwork on which his future learning will be erected:

> After having taught him what will make him more wise and good, you may then entertain him with the

> elements of logic, physics, geometry, rhetoric, and the science which he shall then himself most incline to, his judgment being beforehand formed and fit to choose, he will quickly make his own. (p. 190)

The issue of judgment is central to teacher as well as student. Montaigne believed that it is the teacher's job to determine the proper balance between molding a student and allowing him independence.

For the modern reader, the masculine emphasis in the *Essays* is one of its most *un*modern elements. Montaigne seemed convinced that the countess would have a boy ("You are too generous to begin otherwise than with a male" [p. 172]) and showed a marked disregard for female education. Yet toward the end of his life, he informally adopted a young woman, Marie de Gournay, who had written to him about his work and on whom he lavished a great deal of guidance. (She would go on to write about female education herself.) Montaigne's relationship to Marie de Gournay seems in keeping with his contradictory nature and with his acknowledged "humility"—his sense that he was imperfect, bound by the limitations of being human, and of the constraints associated with a given time and place.

To teach, according to Montaigne, is to offer students a basic grounding in moral and intellectual principles and then supply the tools for them to shape themselves further, according to their interests and disposition. The *Essays* are a demonstration of this method. Montaigne returns continually to himself as a touchstone for his commentary, both to supply examples from his own experience and to demonstrate the process that he advocates: To teach, in other words, is also to learn.

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See also Dewey, John; Emerson, Ralph Waldo; James, William; Locke, John

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Montessori Education

The Montessori education method is named after Maria Montessori (1870–1952), the first licensed female Italian physician who became known for her contributions to early childhood and special education. Having fought hard to be taken seriously in a male-dominated world that positioned her as only an attractive, graceful female educator, Montessori became one of the best-known women to contribute to contemporary educational theory. After opening her first school in 1907, Montessori devoted her life to promoting her education method and setting up Montessori schools in Europe, India, and the United States. Currently, there are more than 3,000 Montessori schools in more than 80 countries. This entry focuses on the foundational ideas and criticisms of Montessori education and considers Montessori's legacy.

Montessori's Educational Ideas

Montessori's training in science taught her to be a good observer and to seek empirical evidence to support or refute hypotheses. This training served her well, helping her discover that children placed in her medical care in an asylum were seeking to learn. She turned to other medical doctors to help her develop methods for educating children with special needs and found that help in France with two doctors seeking to educate deaf children, Jean-Marc-Gaspard Itard (1775–1838) and his student Édouard Séguin (1812–1880). She used their ideas to develop a method based on teaching children abstract concepts, broken down into sequential steps, with concrete materials they can manipulate, and using their multiple senses to help them understand. She added that the child's learning should be self-directed, with the teacher's role to be an observer who helps direct

the children to material based on their interests. Montessori's genius was in understanding that children of all ages and abilities have a strong desire to learn and that the method she developed for educating children with special needs is applicable to all children.

One of Montessori's biographers, Rita Kramer (1976), offers a

> list of ideas, techniques, and objects familiar to everyone in the field of childhood education today, all of which go back to Montessori's work at the start of the [20th] century, all of which she either invented or used in a new way. (p. 373)

In parentheses are current examples of her ideas. These ideas, techniques, and objects—which are the basis of the Montessori education method and are employed in Montessori schools—include the following:

- The concept that children learn through play, and the development of "educational" toys
- Child-size furniture and equipment (brooms, mops, etc.), cubbies and shelves the children can reach, hooks they can reach to hang up their coats and sweaters
- The "open classroom" and the "ungraded classroom" (multiage classrooms where children remain in the same classroom for three years)
- The idea that children should be free to choose their own work and follow their interests and work at their own pace (mastery learning)
- The idea that children should be allowed to work together (peer tutoring) or alone as they desire
- The idea that the child is not just a smaller version of the adult
- The observation that children are learning from birth on
- The significance of early stimulation for later learning and the implications of this for children who are impoverished (Head Start Program, an early-childhood program started in the United States by former president Lyndon Johnson for low-income children)
- The importance of the environment for learning
- The idea that children take real pleasure in learning and that real learning involves the ability to do things for oneself
- The idea that children will establish their own order and quiet if given interesting work to do and that imposing immobility and silence on children hampers their learning
- The idea that what a child does is work and is significant and should not be interrupted unless absolutely necessary, so that the child is able to finish the work to completion
- The idea that the child's learning material should be interesting, attractive, and self-correcting
- The concept of "sensitive periods" for learning and "reading readiness"
- The idea that the school must be part of the community and parents should be involved for their child's education to be effective (parent education)
- The concept that every child has the right to develop to full potential and that schools exist to implement that right. (Adapted from Kramer, 1976, pp. 373–374)

Montessori helped us understand in important, new ways that children are able to concentrate for extended periods of time and learn a great deal if given the opportunity to do so. She showed that we could create schools that are structured so that children learn to be self-directed, self-disciplined, and self-controlled, and that foster their love of learning.

Criticisms of the Montessori Method

William Kilpatrick, a former student of John Dewey (1859–1952), wrote *The Montessori System Examined* in 1914, based on an examination of the English translation of Montessori's *The Montessori Method* and one observation of a Montessori classroom in Rome. His critique of Montessori's ideas, positioned as an impartial analysis despite his loyal support of Dewey, has been pointed to as a key reason why Montessori schools essentially disappeared from the United States after an initial warm reception and did not return until reintroduced by the educator Nancy Rambusch in the 1950s.

One aspect of the Montessori method that Kilpatrick praises is her application of science to education. In Montessori's view, teachers should have a scientific attitude and keep records of their students as they move throughout the classroom and choose their work. Kilpatrick agrees with her that children need to be studied in order to develop a scientific pedagogy, but he reproaches Montessori for overgeneralizing her observations, which were limited to Italian schools.

Kilpatrick criticizes Montessori for not being up-to-date on educational theory. In fact, Kilpatrick suggests that her ideas are not novel ideas but,

instead, can be traced to Jean-Jacques Rousseau (1712–1778), Johann Heinrich Pestalozzi (1746–1827), Friedrich Froebel (1782–1852), and Dewey. For instance, Kilpatrick asserts that Montessori's idea that "education is a development from within" is an idea that harkens back to Rousseau, Pestaozzi, and Froebel and that Rousseau, Froebel, and especially Dewey should be credited with the notion of child liberty. Kilpatrick does not recognize that Montessori's training was as a medical doctor and that she approached education through medicine, not educational theory. Despite such criticism, Montessori's work on the psychology of the infant and the young child proved to be ahead of its time, influencing psychologists such as Jean Piaget (1896–1980), Anna Freud (1895–1982), and Jerome Bruner (1915–).

Kilpatrick also criticizes Montessori's "didactic apparatus," the concrete materials she designed to teach basic concepts, as too formal and as offering little variety. Montessori tested these materials to see what children were drawn to and at what age they were drawn to them, and recommended discarding items that were shown to be not attractive to children. Kilpatrick's criticism notwithstanding, Montessori's approach to teaching concepts continues to be incorporated into 21st-century education: For instance, "educational toys" that are found in preschool classrooms, and in many homes, reflect her philosophy, and her development of concrete materials to teach abstract concepts is an idea used in many elementary math classes today.

Montessori has also been criticized for attaching her family name to a method of education and for seeking to maintain the right to train teachers in her method of education. Others have argued that Montessori's emphasis on method and on teacher training has been key to the continued existence and quality of Montessori schools today. Contemporary Montessori schools can further ensure quality by hiring teachers who are licensed by the AMS (American Montessori Society) or who have graduated from the AMI (Association of Montessori International) certified teacher-training programs and by purchasing materials designed by Montessori.

Legacy

Although Montessori strived to be politically neutral, her schools became associated with several of the political movements of her time. For example, because she moved to Barcelona, Spain, and established schools there in the early 20th century, her schools became associated with the Catalonia uprising and the Spanish Civil War. In the 1920s, Montessori accepted an invitation from Benito Mussolini, Italy's Fascist prime minister, to have her schools become Italy's state-sponsored schools. As a result, her schools became associated with the Fascist Party. And in the 1930s, when Mussolini joined forces with the German leader Adolf Hitler, the reputation of her schools fell even further, even though Mussolini and Hitler closed them down long before World War II erupted.

Montessori's actual legacy presents a different picture, as noted by Thayer-Bacon (2013) in her book *Democracies Always in the Making: Historical and Current Philosophical Issues for Education*:

> Montessori regularly offered training programs throughout Europe, America, and India, and was planning a trip to parts of Africa the year she died; people from all over the world enrolled in her teacher training programs wherever they were offered; she spoke more and more in her senior years about how her educational method connected to the possibility of world peace. This legacy earned her three nominations for a Nobel Peace Prize (1949, 1950, 1951), prior to her death in 1952. (p. 46)

Barbara J. Thayer-Bacon

See also *Century of the Child, The*: Ellen Key; Childhood, Concept of; Dewey, John; Education, Concept of; Froebel, Friedrich; Martin, Jane Roland; Peace Education; Piaget, Jean; Progressive Education and Its Critics; Rousseau, Jean-Jacques

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Moral Development: Lawrence Kohlberg and Carol Gilligan

The term *moral development* most properly describes a natural, long-term process of psychological growth with regard to the individual's capacity to think about moral problems. According to moral development theory, children start out with simplistic, local ideas about what counts as an acceptable moral reason. If social conditions favorable to moral development are present during childhood, adolescence, and early adulthood, moral reasoning will become more abstract, universal, and flexible. Understood in this sense, moral reasoning is indissociable from Lawrence Kohlberg's theory of moral development. Elaborated, tested, and applied in a research program spanning several decades and involving thousands of researchers and educators around the world, Kohlberg's theory of moral development, also referred to as "cognitive moral developmentalism," and its school-based application, the cognitive-developmental approach to moral education, remains a model of partnership between rigorous psychological research and educational innovation.

Of all the extensive critical attention that Kohlberg's theory received, Carol Gilligan's has by far been the most enduring. Gilligan pointed out that Kohlberg had studied only boys and argued that therefore cognitive moral developmentalism does not accurately portray the moral reasoning of women. Her work prepared the way for the emergence of a substantial body of work on the ethic of care. The so-called Kohlberg–Gilligan debate continues to be a key point of reference in moral development theory. This entry describes these important contending positions.

Kohlberg's Theory of Cognitive Moral Development

When Kohlberg entered the field of social psychology in the 1950s, two schools dominated: behaviorism and psychoanalysis. Kohlberg regarded both of these approaches as philosophically suspect as theoretical frameworks for the psychological study of morality. In the United States at that time, Jean Piaget's structural developmentalism was still rather marginal, but Kohlberg latched on to it because it provided the theoretical resources to develop a theory of moral psychology that could overcome the shortcomings that Kohlberg saw in behaviorism and psychoanalysis: a general neglect of the role of responsibility in defining moral behavior and a commitment to moral relativism.

The application of the basic cognitivist orientation of structural developmentalism to the domain of moral cognition allowed Kohlberg to argue, first, that the moral domain could not be coherently conceptualized except as a domain of individual responsibility. What made structural developmentalism so different from behaviorism was that, instead of dismissing subjective mental experiences (i.e., an individual's conscious thoughts, emotions, intentions, reasons for acting, etc.) as unobservable and hence scientifically uninteresting, structural cognitivism takes as its primary data the subjective meanings that individuals ascribe to their social experiences. Kohlberg referred to this theoretical standpoint as *phenomenalism*: Psychologists should take the way moral concepts are articulated in ordinary language as the measure of the validity of moral concepts in psychology. According to phenomenalism, behaviorist and psychoanalytic approaches to moral psychology appear to lack an adequate language for psychological investigation in the moral domain. The reason for this, Kohlberg thought, was that an agent's conscious intentions in performing an act are the sine qua non of assessing the act's moral status, of determining whether it makes sense to describe an act as "moral" at all. For example, a girl takes a pencil and puts it in her pocket. All things being equal, if she knows that the pencil belongs to someone else and didn't get permission from the owner to take it, then she is stealing (immoral). If she did get permission, then she is borrowing (amoral). If she got permission with the intention of using the pencil to help a friend with homework, then the act is prosocial (moral). For Kohlberg, then, any coherent conception of *moral* psychology had to be primarily concerned with the reasons that ordinary moral agents would give to explain and justify their acts.

In addition to the idea of cognitive stage development and the primacy of subjects' explicit understanding in psychological research, a second attractive aspect of Piagetan structural developmentalism for Kohlberg was that, when brought to the field of research on moral cognition, it seemed to pose an exciting new, empirically grounded challenge to

moral relativism. Piagetan structural developmentalism holds, as a central tenet, that the thought systems that human beings use to represent the world are not static. As people actively attempt to make sense of their environments, their thought systems become more sophisticated, more flexible, more effective—in a word, more "adaptive." According to structural developmentalism, that is, the experience of trying to solve problems generates not just different ideas about the way the world is but whole different ways of seeing the world and of interpreting one's experiences. Moreover, the cognitive changes that Piaget's theory of cognitive development describes follow a predictable pattern of growth insofar as all human beings have the potential to pass through the stages of cognitive development and, as long as they are afforded a minimum experience in solving problems (e.g., through formal education), most do. Bringing Piaget's conception of development to the domain of *moral* thought, Kohlberg hypothesized that there exists a process of moral development that, exactly like the process of cognitive development Piaget described, begins with simpler, less adaptive modes of thought for thinking about moral problems and evolves toward more adaptive ones. The description of this process became Kohlberg's stage theory of cognitive moral development, summarized in Table 1. The theory was based on a considerable volume of empirical research in which children of different ages were asked to reason about moral dilemmas; the famous "Heinz dilemma" is discussed below.

In Kohlberg's stage theory, the most crucial developmental transition occurs between the Level 2 conventional perspective and the Level 3 postconventional perspective. Strictly speaking, it is only when people begin to reason at the postconventional level that they can be said to be engaging in "moral" reasoning at all. This key distinction, between "heteronomous" moral thinking and postconventional or "autonomous" morality, constitutes another theoretical debt to Piaget. Indeed, Kohlberg's theory can be seen as a refinement and overhaul of Piaget's work on the development of children's understanding of moral norms. When moral rules are understood heteronomously (i.e., as dependent on outside influences), their legitimacy is based on being established and enforced by some social authority, be it a god, society as a whole, or a person who is admired and respected. Piaget thought that all young children begin with a heteronomous understanding of moral rules. Children feel compelled to conform their behavior to a moral rule like "No hitting!" because they respect and fear adults' power to set down the rules and to impose sanctions if an adult's will is not obeyed. They have no consideration for the purpose or social function of moral rules. Hence, from the perspective of heteronomous morality, "Because mom says so!" is a coherent and convincing reason not to hit. According to Piaget, heteronomous morality characterized in this way as blind obedience to an authority constitutes the "morality of constraint." By contrast, when moral rules are understood autonomously, their legitimacy is based on a pragmatic understanding of the social roles that moral rules play in the economy of interpersonal relations. This is why Piaget also refers to autonomous morality as the "morality of cooperation." No longer arbitrary dictates commanding blind obedience, moral rules become, from the perspective of autonomy, social arrangements between equals who have both individual interests (e.g., bodily integrity and property rights) as well as collective interests (e.g., solidarity and social stability). Moral rules represent a consensual agreement about how the balance of tensions between the individual and the collective can thus be renegotiated, adjusted, and even rejected if it no longer serves the goals of mutual respect and cooperation. Now, hitting is wrong not only because of its negative intrinsic effects (pain, injury, etc.) but also because negotiated settlements to interpersonal conflicts are more stable than solutions imposed by the use of violence.

Owing in large part to Piagetan structural cognitivism's gradual displacement in social and cognitive psychology by an array of competing heuristic, intuitionist, and personological models of social cognition, cognitive developmentalism is no longer the dominant theoretical paradigm in moral psychology. Over the three decades leading up to the turn of the 21st century, though, it stood essentially alone as the starting point for theory and research in the field. Stage theory's magnetism for a generation of moral psychologists was that it combined psychological rigor with a clear moral mission. Essentially, Kohlberg's theory boldly asserts that moral psychology can mediate the complex, divisive, and often ideologically charged moral disputes over tired moral issues such as abortion, capital punishment, and euthanasia. Assume, following Kohlberg, that the various ideological and philosophical standpoints on socio-moral problems (liberalism, republicanism, socialism, conservatism, deontologism,

Table 1 The Levels and Stages of Moral Development According to Kohlberg

Level 1: Preconventional morality

Individual-centered conception of morality

Stage 1: Obedience and punishment orientation

Moral norms are to be obeyed out of blind obedience to the authorities that establish them. An important reason to obey moral norms is to avoid retribution from moral authority figures.

Example: "If you don't share, you'll get in trouble."

Stage 2: Instrumental purpose and exchange orientation

An act is morally justified when it is warranted in an economy of instrumental exchange between equals. Morality is like a marketplace in which acts that harm others' interests deserve retribution and those that further individual interests generate a debt.

Example: "An eye for an eye and a tooth for a tooth."

Level 2: Conventional morality

Socially centered conception of morality

Stage 3: Peer and personal relationships orientation

Moral behavior is defined in terms of conformity to expectations or standards shared by a community of immediate peers or generated by social roles, such as being a neighbor, friend, or sibling. Not wanting to let others down and to appear morally upright in others' eyes, as well as one's own, are convincing moral justifications.

Example: "Be a good boy and help your sister."

Stage 4: Social system maintenance orientation

Moral norms are understood as serving the purpose of upholding the social order. Moral justification typically appeals to the importance of keeping the community functioning, serving society, and avoiding social tumult and instability.

Example: "Homosexuality is wrong because it undermines the institution of the family."

Level 3: Postconventional morality

Reason-centered conception of moral norms

Stage 5: Individual rights orientation

Morality serves the purpose of promoting individuals' rights, such as the right to life, the right to free association, and the right to free religious belief and practice. Existing laws, norms, and rules can do a better or worse job of promoting and protecting rights and freedoms. Norms that are effective at promoting rights should be embraced. Norms that are ineffective in this regard should be rejected or revised.

Example: "Banning abortion is unconscionable because it would deny women's right to control their bodies."

Stage 6: Universal principles orientation

Moral requirements are understood in terms of abstract universal principles that may be expressed as general universal duties, such as the duty to be fair, to respect human dignity, and to treat people always as ends rather than means. Social norms are to be assessed in terms of these principles. Only norms that are consistent with these principles are truly "moral" norms. As rational beings, all humans have an obligation to respect moral norms.

Example: "Refusing to assist terminally ill patients to end their lives is an affront to human dignity."

Source: Adapted from Kohlberg, Levine, and Hewer (1981).

consequentialism, care ethics, etc.) are best explained not in terms of a prioritization of certain moral values (e.g., equality or justice) over others (e.g., loyalty or solidarity) but as representing, more fundamentally, more or less adaptive modes of moral thinking. By providing a framework for analyzing the qualitative differences between various manifestations of moral thinking in terms of their *cognitive adequacy*, moral development theory could be a powerful instrument for undermining the belief that competing moral perspectives are not merely equivalent but different, and relative to a particular culturally or socially informed moral outlook. Kohlberg's theory suggested strongly that some moral standpoints are cognitively superior to others, and it was precisely in this way that moral development theory would end up "defeating relativism," or so Kohlberg thought. A half-century on, such optimism about moral psychology's potential to move social discourse forward is scarcely imaginable. Kohlberg's legacy does continue to be felt, however, in the well-established practice of using semiformal dilemma discussions in moral education. It is to Kohlberg's account of the influence of structured, peer-led moral debates on moral development that we now turn.

The Kohlbergian Approach to Moral Education

Throughout his career, Kohlberg made considerable efforts to link the theory of cognitive moral development with educational practices. These efforts can be situated at the institutional level and at the classroom level. With Piaget, Dewey, and other educational progressivists, Kohlberg was sensitive to the role that the judicious exercise of social authority can play in helping people achieve a rational understanding of morality and in developing their capacity to see the faults in ineffective, harmful, unfair, or arbitrary social norms. Through research, public advocacy, and program implementation and evaluation, Kohlberg used the theory of cognitive moral development as a basis to critique common practices around establishing, promulgating, and enforcing rules in public institutions. Whether on the part of a teacher, school principal, prison guard, judge, or parent, Kohlberg regarded disciplinary practices that depend primarily on the assertion of authority (e.g., "Do it because I say so!") or on the distribution of extraneous punishments and rewards (e.g., "Do it, or you'll stay after school!") as unfavorable to young people's cognitive moral development. The culmination of Kohlberg's work to promote cultural change at the institutional level was the Just Communities Project. Tried in schools and youth detention centers with varying degrees of success and longevity, the Just Communities Project aimed to create an atmosphere favorable to moral development and the acquisition of democratic competencies through the introduction of permanent decision-making mechanisms that operate according to the principles of self-government and direct participatory democracy. Cognitive moral development theory's greater educational legacy, though, is the new scientific footing it gave to an old approach to moral education: dilemma analysis.

Box 1

The Heinz Dilemma

Heinz's wife was near death, and her only hope was a drug that had been discovered by a pharmacist, who was selling it for an exorbitant price. The drug cost $20,000 to make, and the pharmacist was selling it for $200,000. Heinz could only raise $50,000, and insurance wouldn't make up the difference. He offered what he had to the pharmacist, and when his offer was rejected, Heinz said he would pay the rest later. Still, the pharmacist refused. In desperation, Heinz considered stealing the drug. Would it be wrong for him to do that? Should Heinz have broken into the store to steal the drug for his wife? Why or why not?

Source: Adapted from Kohlberg, Levine, and Hewer (1981).

Kohlberg's theory poses a challenge to the standard way in which dilemmas have tended to be used in moral education since at least the Scholastic period in the Western tradition. Still largely in favor in postsecondary professional and applied ethics education, this approach is tutor led and principle focused. The instructor presents learners with a moral problem like the Heinz dilemma (see Box 1) and illustrates how the application of different moral principles, precepts, or obligations yields different resolutions. For instance, in the Heinz dilemma, if one prioritizes Heinz's obligations to his wife in virtue of being her husband, then one is led to the conclusion that Heinz should steal the drug. The prioritization of the property rights of the pharmacist yields the opposite conclusion. In this way, the standard approach to dilemma analysis aims to introduce learners to a multiplicity of abstract moral principles and assumes

that they will learn to apply those moral principles judiciously by observing their manipulation by a wiser and more experienced adult.

From the point of view of cognitive moral developmentalism, this instructor-directed approach to moral dilemma analysis lacks developmental sensitivity. Its primary weakness is that it fails to take into account that the moral principles introduced by the instructor may be beyond students' cognitive reach. For example, according to Kohlberg's theory, a postconventional individual rights perspective (i.e., Level 3, Stage 5) on the Heinz dilemma is largely incomprehensible for a student who tends to view moral problems from a conventional peer and personal relationships orientation (i.e., Level 2, Stage 3). One of the tenets of Piagetan cognitive development theory is that the mechanism of cognitive development is experiences of "disequilibration" or cognitive conflict that in some way challenge the individual's current cognitive orientation. In research on moral development and dilemma discussions, the operative assumption, referred to as the "plus-one convention," has been that cognitive conflict favorable to moral development is induced when children and young people are given opportunities to reflect on styles of moral reasoning about one stage above their own current stage, a stage disparity that exists in most age-based class groups. These experiences allow them to gain rational insights into the cognitive advantages of that higher stage, and perceiving these advantages, they are motivated to reject their current orientation and move on to the next higher stage. Extensive research on the induction of cognitive conflicts in moral education, which supports and refines this basic hypothesis, indicates that peer-directed dilemma discussions are more favorable to moral development than instructor-directed dilemma analyses, especially when they are characterized by a dialogic style of communication (i.e., emphasizing reciprocal respect for others' points of view and involving a genuine attempt to reach an agreement).

Carol Gilligan and the Kohlberg–Gilligan Debate

In her best-selling book *In a Different Voice* (1982), Carol Gilligan argued that the schema Kohlberg used to classify styles of moral reasoning in terms of their cognitive adequacy reflected a characteristically male tendency to prioritize the value of justice when faced with a moral problem. (She pointed out that it was pertinent that Kohlberg had not included women in his research sample.) Because women, according to Gilligan's research, prioritize the value of caring over justice, Kohlberg's theory is biased against women. In advancing this claim, Gilligan associates Kohlberg's theory with a long line of philosophers and psychologists in the Western intellectual tradition (e.g., Augustine, René Descartes, Jean-Jacques Rousseau, and Sigmund Freud) who have posited qualitative gender differences in morality and consider the moral orientation typical of women to be limited, inferior, and even childish.

Careful reviews of the literature on morality and gender since the mid-1980s, for example, by Lawrence Walker, suggest that Gilligan's claims about gender differences cannot be sustained. Despite its empirical limitations, Gilligan's critique of Kohlberg's theory has had a huge influence on the evolution of the field of moral psychology and moral education. First, it was instrumental in pushing cognitive developmentalists to seek cross-gender and cross-cultural empirical validation for the theory of moral development. Second, and at the theoretical level, it led cognitive developmentalism to a fuller appreciation of well-being as a fundamental moral value. Third, as the philosopher Michael Slote has observed, Gilligan's book lent considerable impetus to a whole new approach to ethical reflection, deliberation, and choice, namely, the ethics of care. Now established as a dominant school of thought in normative ethics, care ethics has been advocated and elaborated on by a considerable number of philosophers and educationists—most notably Nel Noddings. In Gilligan's work, care ethicists see a powerful challenge not just to the Kohlbergian conception of the morally developed person but, more broadly, to an ethical and political culture in Western societies that seems to arbitrarily elevate justice, equality, rights, and the individual, while denigrating kindness and caring for others, solidarity, and face-to-face relationships, as essential elements in our descriptions of ethical thinking, ethical choice, and the ethical society.

Bruce Maxwell

See also Autonomy; Feminist Ethics; Moral Education; Noddings, Nel; Piaget, Jean; Virtue Ethics

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Moral Education

Any society must concern itself with the socialization of its citizens. This begins in childhood, and schools are critical to this process. Socialization and moral learning inevitably take place in schools, and there is a "hidden curriculum" that models which behavior is considered appropriate or "normal." This entry will focus on the theory and practice of intentional moral and character education. After a brief sketch of its conceptual roots in Greek philosophy and developments until the early 20th century, some major models of school-based moral education will be described that dominated the discourse more recently: values clarification, Lawrence Kohlberg's cognitive-developmental approach, and contemporary comprehensive character education.

History

Many of the dominant strands and controversies in the contemporary understanding of morality and the goals of moral education in the United States and other regions in the Western world can be traced back to the ancient Greek philosophers. Socrates and Plato believed that a person who knows the good will do the good, and so their conception of moral education focused on imparting understanding and reasoning skills so that individuals could gain this requisite knowledge—a process spelled out in detail in Plato's famous dialogue *The Republic*. The claim was also made in this work—the focus of which was the nature of the perfect human community and the characteristics of its citizens—that justice is the key desideratum of the ideal state.

The Platonic approach is echoed by modern approaches to values and moral education that emphasize reflection and the development of moral judgment, and that typically avoid the term *virtues*. Aristotle, in contrast, argued that only the cultivation of virtuous behavior, the practice of virtues and relevant habits, would result in a virtuous life. This philosophy of virtues provided the groundwork for conceptions of character education that have persisted down the years. However, just as the differences between these philosophers did not overshadow their basic agreement that character must be actively cultivated, so too have modern approaches to moral and character education arrived at a common understanding that the educational enterprise is about the complete person and that "good character consists of knowing the good, desiring the good and doing the good—habits of the mind, habits of the heart, and habits of action. All three are necessary for leading a moral life; all three make up moral maturity" (Lickona, 1991, pp. 50–51).

From the Middle Ages down to modern times, Christian thought dominated the philosophy and practice of moral education in European societies and in North America, and it promulgated the view that character is not independent from religious faith. Looking at the status and practice of moral education in North America, the intersection of moral and religious thought was evident from colonial times to the 19th century, when, for instance, the American Bible Society was founded in 1816. It became an advocate for the use of the Bible for religious as well as moral education in schools. The extremely influential McGuffey Readers (from 1836 to about 1920) continued in this direction, for they included biblical stories and heroic tales to teach moral lessons while also serving as a general series of school books for reading and arithmetic.

In the late 19th and early 20th centuries, a number of factors undermined the faith-based consensus on character education; most important, waves of non-Protestant immigrants led to intensifying trends of pluralism and an increasing secularization in American society.

At the same time, empirical research challenged the assumption that the common practice of character education actually leads to the expected effects. The Character Education Inquiry, conducted from 1924 to 1929 and published by Hugh Hartshorne and Mark May in the *Studies in the Nature of Character* (1928–1930), had results that led the authors to the conclusion that moral action depends on situational factors and is not the expression of a stable trait that could be called "character," and that the prevailing pedagogy for inculcating morals was ineffective and perhaps even harmful. The study hit the field of research on character education hard; the number of publications dropped dramatically in the 1930s and 1940s. Traditional approaches lost their persuasive power because the very notion of character itself was called into question.

Values Education and the Cognitive-Developmental Approach to Moral Education

A new era in values and moral education began in the mid-1960s, when two approaches in the tradition of Socrates and Plato entered the scene and would dominate the field for the next 20 years: Raths, Harmin, and Simon (1966) coauthored the first statement of the central ideas and the pedagogy of values clarification, while the developmental psychologist Lawrence Kohlberg (1927–1987) published his first application of the cognitive-developmental theory of moral development to the field of moral education. In the years that followed, values clarification was wildly popular with teachers but suffered under severe theoretical deficiencies, which eventually discredited the approach dramatically, while Kohlberg's approach, with its strong theoretical base, revolutionized the academic discourse but had only limited influence on the educational practice in schools and beyond.

Values clarification starts from the position that if many of the ills of modern society that affect the individual are to be corrected, then first these individuals must receive help in clarifying what they personally cherish, which standards for a successful life they hold, and which goals in life they would set. According to Raths et al.'s (1966), unusually demanding definition, only what has been chosen freely and after thoughtful consideration, and what the subject is willing to affirm publicly and actually lives by, is considered a value. The acceptance of values is left to the individual; no universal or commonly accepted standards were introduced; no philosophical concepts or social norms were directly taught. In the practice of values clarification, teachers were expected to keep a neutral stance and to act as facilitators in students' processes of reflecting on their own values, mainly by asking questions called "clarifying responses."

The decline of values clarification began in the early 1980s, partly because the effectiveness record was not convincing; many of the target-dependent variables (e.g., self-concept, dogmatism, values-related behavior) showed no significant changes in most evaluation studies. More damaging to the approach, however, were thorough philosophical and psychological analyses pointing to major flaws at the core of the program: ethical relativism, the lack of a distinction between moral and nonmoral values, the dangerous proximity to therapeutic techniques, and the potential threat to privacy rights in the case of instructional strategies that coerce students to publicly talk about very intimate details. Eventually, values clarification vanished from North American schools and became taboo. Any conversation about the utility of pedagogical strategies that encouraged reflection on values and on making decisions freely and carefully was considered preposterous.

As part of the widespread move against behaviorism in psychology, Lawrence Kohlberg tapped into the developmental work of Jean Piaget. Kohlberg's theory of moral development (1984) focused on what behaviorism treated as a "black box": the reasoning processes. His cognitive development approach to moral education developed into a forcefully grounded and influential counterweight to traditional character education and its conformist virtue approach.

In a research program spanning two decades, Kohlberg examined the development of moral judgment through childhood, adolescence, and adulthood. His cognitive-developmental theory claims that individuals move through an invariant series of stages of reasoning that are increasingly adequate in allowing these individuals to solve moral dilemmas and to understand and apply moral principles (Kohlberg, 1984). The details of the theory were

modified a number of times, but the basic structure of the developmental model was supported in a large number of studies around the world, notwithstanding some remaining controversy about the nature and universality of the postconventional stages.

Kohlberg's interest in moral education grew in the late 1960s, when a successful intervention study of a doctoral student, Moshe Blatt, helped spark great interest in utilizing teacher-led, structured peer discussions of moral problems as a major strategy in moral education. Large-scale research projects demonstrated that a series of moral dilemma discussions over several months could produce significant development of students' moral reasoning, especially at the lower developmental levels. Supporting the temporary success of the dilemma discussion approach to moral education, a number of practice guides to leading moral discussion were published and widely used (e.g., Galbraith & Jones, 1976).

However useful classroom dilemma discussions are, it turned out that there are clear limits to an approach to moral education that is restricted to cognitive stimulation, and to the classroom, and neglects questions of what is morally good (as compared with rights and duties) and of moral action in real-life conflicts. Kohlberg was aware of these limits from early on and did advocate for changes in the pedagogical conception. The critical step beyond the classroom and moral discussion as a stand-alone pedagogy was made through the establishment of Just Community programs in schools, beginning in 1974 (Power, Higgins, & Kohlberg, 1989). The programmatic idea was to promote both moral reasoning and a disposition for moral action by addressing real-life conflicts at school. The Just Community approach required a radical rethinking of teachers' roles by introducing strong participatory structures; it aimed at no less than transforming the school culture and building communities with rights and responsibilities for all. The concept was further broadened when the approach was translated from American to European conditions and adapted from the high school level to middle and elementary schools. In addition to the focus on moral reasoning and action, social and civic learning in a broader sense was stimulated: cooperative and participatory skills, competences needed in communication, social relationships, and community building (see Oser, Althof, & Higgins-D'Alessandro, 2008, for accounts of the evolution of the Just Community approach in the United States and Europe). Just Community programs were also implemented in prisons.

Character Education for the 21st Century

The early 1990s marked the revival of approaches in the field of values and moral education that can be regarded as forms of character education. Times had changed, the political climate was increasingly conservative, and many commentators lamented the weakened role of families in the socialization of children and adolescents. Character education was reintroduced as a remedy for society's debility. Traditional approaches to "character formation," with their Aristotelian focus on direct teaching of virtues, habits, and virtuous behavior, and with the typical battery of pedagogical inculcation strategies, were again promoted, including teaching about and advocacy for core values and virtues, demanding exemplary behavior from teachers, the use of virtuous models in the literature studied, public recognition for those who manifest those values or virtues, other forms of extrinsic praise and reward, behavior training including drill, and rejection of critical reflection of values and of grappling with moral concepts in the lower grades. While getting much public attention (e.g., William Bennett's *Book of Virtues*, 1993, was on the *New York Times* bestseller list for two years), little research evidence supported the effectiveness claims of such strategies. In the academic discourse, the traditional character education pedagogy does not play a significant role anymore.

While the practice in schools often is still limited to occasional events like the celebration of the "virtue of the month," a body of literature on the theory of character education, together with field-tested practice, has grown in strength in the past two decades, and this has lent support for instituting comprehensive programs targeting the cognitive, emotional, and action-related developmental dimensions of the complete person. A breakthrough of this broader conception of character education, one that opened the possibility of reconciling the antagonism between traditional character education and rational and developmental moral education, was initiated by several events: the publication of Thomas Lickona's book *Educating for Character: How Our Schools Can Teach Respect and Responsibility* (1991)—reportedly the largest-selling book in the field to this day; the release in 1992 of the *Aspen*

Declaration on Character Education—a broadly supported position statement; and the creation of the nonprofit Character Education Partnership in 1993 as a national coalition with the purpose of advocating a central role for character development in the education agenda nationwide.

From a moral education perspective, it might be considered either an asset or a problem that this movement draws on a multitude of philosophical and psychological sources that have not always been fully compatible and that, in addition, current approaches mostly work from a broad definition of character that alludes to moral as well as nonmoral qualities of the "whole child" and targets "performance character"—nonmoral virtues like hard work, persistence, self-control, and courage—alongside "moral character."

Under the title "Eleven Principles of Effective Character Education," the Character Education Partnership (2010) published a set of recommendations for the schoolwide implementation of programs that are theoretically consistent and backed by research in various domains. The principles include the promotion of core values as the basis for good character; a comprehensive understanding of character to include thinking, feeling, and action; and a holistic and intentional approach to character education. This approach includes creating a caring school community, providing students with opportunities for moral action, and using a meaningful and challenging academic curriculum that fosters students' intrinsic motivation rather than working with extrinsic incentives. Further principles focus on strengthening the role of stakeholders: school staff, school and program leadership, as well as parents and community members. The 11th principle emphasizes the willingness to evaluate the efforts and outcomes of character education programs. One outstanding example of a comprehensive character education approach that meets all these criteria was the Child Development Project of the Developmental Studies Center in Oakland, California, now followed by a streamlined offshoot called Caring School Community (Battistich, 2008).

Wolfgang Althof

See also Adolescent Development; Aristotle; Character Development; MacIntyre, Alasdair; Moral Development: Lawrence Kohlberg and Carol Gilligan; Plato; Values Clarification; Values Education; Virtue Ethics

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Motivation

At the center of most contemporary theories of motivation are assumptions that people act in certain ways based on beliefs about what they want to

do, how important it is to do it, how capable they are of doing it, and why they might succeed or fail at it. These beliefs determine the choice and direction of actions, along with levels of effort, intensity, and persistence. Within the realm of education, discussions of these interrelated beliefs have been central to understanding why students engage or fail to engage in the academic and social activities of the classroom. This entry provides a general overview of current perspectives on motivation, followed by more focused discussions of motivation-related constructs.

Perspectives on Motivation

There are few "grand theories" of motivation that are currently used to explain children's behavior and accomplishments at school. Rather, theoretical perspectives tend to focus on single constructs that might explain motivated behavior. However, a basic tenet of many of these theories is that people set goals for themselves and these goals determine the direction of behavior and why people do what they do. In turn, motivational beliefs that support decisions concerning goal pursuit are posited to take the form of values, and beliefs about ability, causality, and control. Values reflect the costs and benefits of goal accomplishment, the importance and long-term utility of goal achievement, and the intrinsic pleasure of engaging in goal-directed behavior. Students' beliefs about their abilities influence what they choose to do and why they persist at certain activities and not others; the stronger someone's beliefs about ability, the more likely they are to engage in goal pursuit. Beliefs about autonomy and control provide students with a lens for interpreting success and failure and with reasons for engaging in or refraining from future goal pursuit. A central assumption underlying these constructs is that the primary responsibility for goal-directed behavior rests within the individual and that interventions to improve motivation must focus on changing these individual beliefs.

In addition, some theoretical perspectives posit that motivation is a function of interactions with the environment and that goal pursuit is governed not only by self-related beliefs but also by concerns that emanate from social interactions and contextual cues. In this case, theorists recognize the importance of beliefs about belongingness and emotional connectedness to others in supporting goal-directed behavior; engagement in socially valued activities at school is more likely to occur if students believe that others care about them and want them to pursue socially valued goals. In addition, beliefs about moral and social obligations are believed to influence the outcomes that individuals choose to pursue in a given situation or setting. Based on these perspectives, interventions designed to improve student motivation would focus on promoting an ethic of care within classrooms and schools and enhancing contextual supports and communications to students concerning expectations for behavioral and academic accomplishments.

Goal-Directed Behavior

Needs and goals reflect what it is that individuals would like to accomplish. Both constructs focus on the centrality of the content of individual desires in providing the foundation and initiative for behavior. However, needs are typically defined as intrinsically motivated outcomes that are relatively stable and reflected in basic personality traits. Current theories propose that needs for competence, autonomy, and relatedness are essential in that personal well-being and healthy adaptation are achieved when these needs are met. In contrast, personal goals are typically defined as cognitive representations of desired future outcomes; goals are studied with respect to situation- or task-specific accomplishments. Unlike needs, personal goals can emanate from the individual or from external sources such as teachers or peers. Beyond this basic definition, however, some theorists propose that goals direct efforts toward specific accomplishments, whereas others focus on acceptable levels of accomplishment. Goal dimensions, such as approach–avoidance, ego involved versus task involved, active versus reactive, and proximal versus distal, also are posited to direct behavior in qualitatively different ways.

Several issues surround the work on needs and goals. First, levels of specificity and abstraction are rarely considered in theoretical or empirical work. It is often unclear if researchers are assessing general tendencies or needs as opposed to task- or situation-specific goals. Second, the likelihood that most people are pursuing multiple goals (or needs) simultaneously and that these goals are interrelated and pursued in hierarchical fashion is rarely discussed. Finally, an inordinate focus on conscious cognition has limited considerations that goals or needs operate at the unconscious level and can be primed by contextual and social cues.

Beliefs About Ability

A general set of constructs believed to support goal pursuit reflects beliefs about being able to accomplish tasks. Specific constructs are (a) ability beliefs, which reflect evaluations of overall competence in different areas; (b) expectancies for success, which reflect beliefs about how well one will do on an upcoming task; and (c) efficacy beliefs, which reflect the conviction that one has the ability to accomplish a given task.

Several issues surround the study of ability beliefs. First, questions concerning the level of specificity and the distinct nature of the various beliefs have been posed. For example, critics have questioned the degree to which measurement strategies can adequately differentiate the various types of ability beliefs. Substantive concerns focus on the degree to which these beliefs reflect reactions to performance as opposed to guiding future performance and whether they reflect a generalized belief about the self or beliefs about ability within academic domains or on specific tasks. These beliefs are typically described as being task specific and, therefore, changeable in light of success or failure experiences. However, the malleability of ability beliefs has been questioned given the consistency with which some students persist at or withdraw from goal pursuit regardless of the situation or task.

Beliefs About Causality and Control

The motivational significance of beliefs about causality and control has been guided primarily by attribution theory and self-determination theory. Attribution theory attempts to explain individuals' causal reasoning about why things happen. Weiner's attribution model specifies three categories of reasons that are employed to explain outcomes: (1) stability (Can it happen again?), (2) locus (Was the event influenced by internal or external factors?), and (3) controllability (Can it be controlled?). In turn, causal reasoning is believed to influence subsequent behavioral choices, with beliefs about the stability of a cause influencing expectancy about future events, beliefs about control influencing persistence, and beliefs about causality influencing emotional responses to the outcome. It is clear that people use this type of reasoning to explain their own behavior or that of others, especially in situations involving negative consequences or violations of expectations. However, critics argue that attributions might not govern behavior similarly in situations not involving unexpected outcomes. Critics also argue that attribution theory is too mechanistic and reductionist: People are simply not as rational or logical in their thinking as the theory implies, nor do they reason in a vacuum that is void of social and cultural influences.

Self-determination theory has expanded the focus on beliefs about control to consider the degree to which reasons are internalized or reflect self-determined action. In this case, reasons are posited to reflect a continuum of perceived control, ranging from extrinsic to intrinsic: some goals might be pursued for social reasons (e.g., to please others or to avoid punishment), whereas others might be pursued for their own sake, without the need for external prompts or rewards. These latter reasons are believed to reflect internalization; internalized reasons reflect beliefs that behavior is motivated and controlled by the self or by the unique rewards and enjoyment associated with task engagement, rather than by external or unknown forces. Behavior motivated by internalized reasons is considered to be the most desirable form of control. As with personal goals, differing notions surrounding the origins of internalized beliefs or reasons have been proposed. Whereas some believe that internalization develops out of an individual's active assimilation of information into an organized sense of self, others believe that it is imposed on the individual by external forces.

Beliefs About Social Belonging and Expectations for Behavior

Students' beliefs about social relatedness, especially with respect to teachers, have been posited as fundamental motivators of classroom behavior. Self-determination theory proposes that teachers who display high levels of emotional involvement and caring toward their students provide support for the development of these beliefs. Based on a more innate set of processes, attachment theory proposes that the quality of early relationships with caregivers provides children with the psychological foundation for subsequent beliefs about relationships with others. Several issues are central to understanding the role of beliefs about belongingness in motivating student outcomes. As noted, the developmental underpinnings of these beliefs vary, with implications for whether they are easily subject to change. Questions also arise as to whether it is a specific quality of

social interactions that leads to beliefs about belongingness or if it is the degree to which an ethic of care is demonstrated. Finally, the degree to which these beliefs about the social context are related to belief systems concerning ability, causality, and control is not well understood.

Beliefs about expected and acceptable behavior in a social group also are viewed as reasons for goal-directed behavior. In the classroom, perceived social norms (and an accompanying sense of obligation to conform to them) serve to maintain the smooth functioning of the group. Theoretical perspectives in this area focus on the development of moral reasoning and the acquisition and internalization of social norms. The development of moral reasoning is viewed as a constructivist process, with the sophistication of reasoning changing in stagelike fashion, often as a function of context and experience. Other perspectives propose that social norms are externally imposed and subsequently adopted by individuals as part of their social identity. Of issue, however, is whether norms for behavior are context specific or universal. In addition, important differences between moral and social norms and between normative and conventional expectations are often blurred or remain undefined. Finally, many contend that students often understand what is expected of them but that understanding does not lead to actual behavior.

Conclusion

In general, motivation is defined as a set of interrelated beliefs that direct behavior. Beyond this generic definition, however, assumptions about these beliefs and how they determine behavior differ in terms of their stability and malleability, levels of abstraction and specificity, locus of determination, and dimensions as defined by qualitative or quantitative influence. With respect to classroom practice and intervention, these assumptions have differing implications for the likelihood of change, units of change (performance at the level of task vs. individual vs. classroom), locus of change (students, teachers, or both), and strategies for change (amount vs. type of change). Therefore, future work designed to facilitate student motivation will require theoretical frameworks that provide clear hypotheses for testing and that take into account the broad range of constructs that have been identified as contributing to goal-directed behavior.

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See also Achievement Motivation; Self-Regulated Learning

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Multicultural Citizenship

Citizenship as free and equal membership in a polity is most commonly associated with its core principled commitment to civic equality. Its central basic characteristic is that each and every member of a polity is being granted an equal set of rights. Nevertheless, advocates of multiculturalism have maintained that standard conceptions of citizenship are either insensitive toward differences stemming from individuals' cultural identity or straightforwardly discriminatory and oppressive. In particular, the education of students of migrant origin or minority students, together with other programs or initiatives, has opened some of the basic questions over the nature, value, and justification of cultural diversity.

Unlike the classical liberal or mainstream multicultural conceptions of citizenship, Will Kymlicka articulated a conception of multicultural citizenship that claims to be both sensitive to cultural diversity and consistent with the basic principles

of a liberal conception of citizenship. This entry describes the basic elements of multicultural citizenship as described by Kymlicka, including the nature and the value of cultural membership, the justification for the recognition and accommodation of cultural diversity, the status and the type of group rights, and the conditions group rights need to fulfill to be consistent with a liberal conception of citizenship. The concluding section identifies the most important challenges this account of citizenship has brought for standard conceptions of civic equality.

The Liberal Multicultural Hypothesis

Multicultural citizenship is a crucial component of Kymlicka's "liberal approach to minority rights," articulated most fully in his book *Multicultural Citizenship* (1995). It is based on a number of interrelated claims that aim to bridge the gap between the standard liberal conception of civic equality and the mainstream multiculturalist claims for recognition and accommodation of cultural differences (e.g., Modood, 2007; Parekh, 2000), including the following:

> That national minorities, immigrants, and indigenous peoples have a legitimate interest in a secure and stable cultural context
>
> That claims for the accommodation of cultural diversity are based on justice
>
> That group rights are the most viable means to assist nondominant minority groups in their claims for the recognition and accommodation of their cultural differences
>
> That group rights and other multicultural policies are basically consistent with common principles and shared public values

Kymlicka (2011) argues that "states can adopt multiculturalism policies to fairly recognize the legitimate interests of minorities in their identity and culture without eroding core liberal-democratic values" (p. 6).

Along with other accounts of multiculturalism including "the politics of recognition" (Taylor, 1992) and "the politics of difference" (Young, 1990), Kymlicka maintains that neither the expansion of status nor the expansion of entitlement associated with the classical liberal conception of citizenship, as exemplified best by T. H. Marshall in his essay "Citizenship and Social Class" (1950/1992), is sufficiently inclusive in confronting claims for the recognition and accommodation of cultural differences. As Kymlicka emphasizes, the standard liberal conception of citizenship and its uniform treatment approach toward cultural diversity is insensitive to the claims of minority groups for recognition and accommodation of their cultural differences in that it

> fails to recognize the legitimate interests of national minorities, immigrants, and indigenous peoples in a stable cultural context;
>
> lacks the means to compensate adequately for individuals' unequal circumstances; and, relatedly,
>
> insufficiently protects the interests of culturally disadvantaged minority groups.

His justification of multicultural citizenship and its conception of group rights is therefore based on the premise that classical liberal mechanisms to protect an individual's basic interests, including freedom of expression and freedom of association, are not sufficient to provide equal protection for the interests of all members of a polity.

The Status of Cultural Membership

Kymlicka's conception of multicultural citizenship is based on the premise that cultural membership is a primary good (in the Rawlsian sense of the term) (Tomasi, 1995). In this sense, the accommodation and recognition of cultural diversity that represents the justification of multicultural citizenship are premised not on the intrinsic value of a particular culture but on the value cultural diversity has for individuals' cultivation of autonomy (a choice-related instrumental value) and the development of self-respect (a self-respect-related instrumental value). Multiculturalist policies are conceptualized as an indirect protection of individuals' capacity for choice and equal treatment and are therefore consistent with a liberal conception of civic equality. At the same time, the demand for group rights has been made, supported partly in terms of an argument asserting that "the relationship between cultural membership and self-respect gives the parties to the original position a strong incentive to give cultural membership status as a primary good" (Kymlicka, 1989, p. 166). In fact, self-respect, as John Rawls (1971/1999) emphasizes in *A Theory of Justice*, "includes a person's sense of his own value, his secure conviction that his conception

of the good, his plan of life, is worth carrying out" (p. 386). This leads to the assertion that the members of nondominant minority groups are undeservedly disadvantaged in terms of access to a stable and secure cultural environment that is instrumental for the cultivation of a "context of choice" (the context of choice requirement). The important thing to note is that the main emphasis is primarily on a *stable* cultural context rather than on having at one's disposal a specific culture one has been traditionally associated with.

The Nature of Cultural Membership

The concept of multicultural citizenship and the associated account of group rights is based on a distinction between two separate groups that exist in contemporary pluralist societies—national minorities and immigrant groups. These two groups differ primarily over the nature of cultural diversity itself. The former have a societal culture, that is,

> a culture which provides its members with meaningful ways of life across the full range of human activities, including social, educational, religious, and economic life, encompassing both public and private spheres. These cultures tend to be territorially concentrated, and based on a shared language. (Kymlicka, 1995, p. 76)

In contrast, immigrants do not share a societal culture and have deliberately made a choice to move elsewhere, so there should be no justice-based claim for accommodation of their cultural differences.

At the normative level, this distinction is important for distinguishing claims that should be recognized as group rights and those whose claims should be sufficiently protected by standard liberal mechanisms including freedom of expression and freedom of association. As Samuel Scheffler (2005) emphasizes, the main dispute associated with these issues, including the nature of cultural membership, is therefore primarily to identify "which factors should be counted as part of peoples's circumstances and which can be subsumed under categories of choice" (p. 6). The basic question therefore revolves around the distinction between two normative sources of diversity—chance-based diversity and choice-based diversity. The former constitutes the unchosen natural and social conditions associated with one's identity. The latter form of diversity, on the other hand, is a matter of individual choice. As Kymlicka (1989) firmly points out, "the distinction between choices and circumstances is in fact absolutely central to the liberal project" (p. 186).

A number of scholars have strongly objected to this claim; for example, Chandran Kukathas (1992/2003) has argued that the design of multiculturalist policies that distinguish between minorities and immigrants is discriminatory in that it unjustly distinguishes between groups who might be equally disadvantaged in their relationship to the mainstream society. Moreover, in his book *Culture and Equality* (2001), Brian Barry advanced a critique of the liberal multicultural hypothesis by arguing that cultural differences cannot be equated with disadvantages stemming from bad brute luck, such as a handicap (the nonequivalence objection), and that a differentiated conception of civic equality is inconsistent with an egalitarian conception of citizenship as free and equal membership in a polity (the civic equality objection).

Types of Group Rights

Kymlicka (1995) distinguishes between three main forms of group-differentiated rights associated with claims for the accommodation of cultural differences (pp. 26–33):

1. Self-government rights
2. Polyethnic rights
3. Special representation rights

Self-government rights, as Kymlicka emphasizes, represent a permanent mechanism for the recognition of claims advanced by national minorities and indigenous groups "so as to ensure the full and free development of their cultures and the best interests of their people" (p. 27). In contrast, polyethnic rights are available also to immigrants and religious minorities to "express their cultural particularity and pride without it hampering their success in the economic and political institutions of the dominant society" (p. 31). They consist primarily of various policies including public support of practices and activities associated with their cultural identity or exemptions from otherwise binding laws and regulations. Special representation rights are intended to ensure a fair representation of disadvantaged, oppressed, or marginalized groups in the legislature. Given the fact that nondominant minority groups have been either absent or underrepresented at best, the reduction or removal of barriers and obstacles to their successful inclusion eliminates the need for

special representation rights. Because of this, such policies are primarily seen as a temporary mechanism to facilitate the integration of disadvantaged or underrepresented groups.

Group rights therefore perform a number of separate functions. First, they are primarily oriented to ensure the protection of nondominant minority groups from the pressures and influences of the dominant society and from outside interference in general (the protection of cultural coherence requirement). At the same time, group rights aim to provide a fairer and more efficient integration of these groups into the mainstream society and its basic institutional framework (the requirement of integration). Because group rights aim to equalize the opportunities between members of the majority population and those who are eligible for accommodation, they are primarily compensatory in nature.

Conditions for Accommodation

Contrary to the standard liberal conception of citizenship, which distributes an equal set of rights to all members of a political community, the model of multicultural citizenship distributes group rights on the basis of membership in groups that meet the criteria for accommodation. As Kymlicka (1995) emphasizes, "A liberal view requires *freedom* within the minority group, and *equality* between the minority and majority groups" (p. 152). This requirement basically refuses to allow the basic rights and fundamental freedoms of individual members of minority cultures to be overridden by the interests of minority groups (the requirement of equal freedom). "A liberal theory of minority rights," writes Kymlicka (1995), is characterized by a commitment to "how minority rights coexist with human rights, and how minority rights are limited by principles of individual liberty, democracy, and social justice" (p. 6).

Conclusion

The "liberal approach to minority rights" and its foundational conception of multicultural citizenship as articulated by Will Kymlicka have been equally challenging for advocates of classical liberalism and for advocates of mainstream multiculturalism.

His conception of multicultural citizenship and a differentiated conception of civic equality have challenged the standard liberal conception of citizenship and its "uniform treatment approach" in its three core assumptions associated with cultural diversity:

1. That (national) cultures are largely homogeneous
2. That culture is irrelevant in considerations over justice
3. That civic equality and equal treatment are coextensive

At the same time, his explicit acknowledgment of the limits of accommodation of cultural differences, as well as the requirement that group rights and multiculturalist policies in general be consistent with a broadly liberal outlook, has met with reservations among different advocates of multiculturalism. Nevertheless, his redefinition of civic equality has expanded our understanding of citizenship as free and equal membership in a polity.

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See also Citizenship and Civic Education; Diversity; Ethnicity and Race; Liberalism; Multiculturalism; Toleration; Young, Iris Marion

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MULTICULTURALISM

The term *multiculturalism* as an approach to both society and education is of relatively recent vintage, although it inherits earlier traditions of thought about cultural pluralism and minority rights. Multiculturalism in society deals with normative and policy responses of recognition, support, and accommodation to ethnic, racial, religious, linguistic, and national groups, generally as minority groups within the borders of a given nation-state. Political theorists examine whether these accommodations are permitted by a proper understanding of liberal principles and, if and when liberalism and multiculturalism conflict, which approach should prevail. Especially in the United States, and more especially in the American world of education, multiculturalism is often taken to embrace a range of groups other than those mentioned. They have in common the experience of being the target of discrimination, marginalization, or stigmatization—such as groups defined by gender, sexual orientation, gender expression, or disability. Nevertheless, it is misleading to think of the challenges of equality and recognition these groups face as having something to do with their cultures, if indeed they can be spoken of as having cultures.

One challenge in giving an account of multiculturalism is that, especially in American education, it has become a bandwagon term, as notably expressed by the title of the influential book *We Are All Multiculturalists Now* (Glazer, 1997). So educators might engage in practices they defend as multiculturalist but that do not correspond to a coherent theoretical position on multiculturalism. Precisely the reverse process seems to have taken place in some European countries where multiculturalism has become stigmatized, associated with Islamic terrorism in Europe and the United States since 2001 and with the alleged failure of Islamic immigrant communities in European countries to become adequately integrated into and loyal to their host nations. In these countries, policies that might fit a theoretically coherent view of multiculturalism, and that, indeed, had been formerly defended in those terms, are now conceptualized in other ways, for example, via the language of "integration."

It is not entirely unproblematic to use "culture" to frame the groups included within multiculturalism. Many kinds of groups—companies, professions, age-groups—can have "cultures," but the kind of culture generally regarded as most relevant to multiculturalism is ethnoculture—the culture of ethnic groups. Religion and language are included because both are so often a part of a given group's ethnoculture; race is more distinct from culture, but minority ethnocultural groups are often also racially distinct from the dominant White group in European and U.S. contexts. Moreover, aspects of a group's culture may have developed in response to racist treatment, notably exemplified by African Americans. National culture is included in part because the origins of many ethnic groups inside one country lie in another nation and in part because a given nation's distinctive culture has to be taken into account in thinking about cultural diversity within that nation. But also, when "nation" is used to refer to indigenous cultural groups with, or with aspirations to, territory within a given nation-state (such as First Nations in Canada and the United States, aborigines in Australia), such national groups are a paradigmatic group relevant to multiculturalism (Kymlicka, 2007; Laden & Owen, 2007).

Educational multiculturalism transcends issues of accommodation. It bears on all aspects of education—the purely academic as well as moral, civic, and personal growth—and involves goods both to the individual student and to the society. But multicultural education is not a comprehensive theory of the aims of education. Some aims, such as autonomy or critical thinking, are not directly

sought by multicultural education, although some aspects of it may contribute to them.

Difference-Affirming Values

Multicultural education embraces several distinct aims and values. Most of them can be framed within two major value families—difference and equality. The former is more popularly associated with educational multiculturalism, as expressed in the title of a canonical text in multicultural education, *Affirming Diversity* (Nieto & Bode, 2012). But in fact, much educational multiculturalism is properly seen as grounded in equality concerns.

A minimal core multicultural educational principle is teaching about the range of ethnocultural groups within a given nation's border, rather than focusing solely on the dominant group. This minimal dimension of multiculturalism can be defended on purely academic grounds, setting the historical record straight by not omitting important groups from academic study. This principle leaves important questions open. Should the coverage be determined solely by considerations of national importance, or should schools give more attention to groups that may be more numerous or historically significant in the region in which the school is located or indeed in the school population itself?

Teaching students about groups other than their own serves difference-related moral, civic, and personal values, besides the purely academic one of expanding students' mental horizons and giving them a better understanding of their nation's (and the world's) history. Doing so is presumed to increase their respect for these different groups and to reduce prejudices that they might have grounded in ignorance of them. "Respect for difference" is a more robust moral standard than mere tolerance, often cited as a multicultural education goal (Levinson, 2012). Tolerating means a "live and let live" attitude toward something of which one disapproves. But students' greater understanding of other groups should reduce the very objections they might have that require tolerance and instead lead to a positive respect for the groups studied.

This respect for difference has a moral significance in that respect for others is a core moral attitude, a personal significance in that it enhances the possibilities for a wider range of fulfilling interpersonal relationships through bringing more groups within one's purview of potential friends, and a civic significance in that greater respect for socially significant groups enhances the possibilities for engaging with them productively in a civic context. The latter reflects a benefit to society as well in preparing students to engage constructively with fellow citizens of diverse groups.

Nevertheless, learning more about a given group does not *guarantee* greater respect. A student might become appalled rather than sympathetic or respectful by what she learns about why a group engages in the practices it does. Thus, two distinct goals of multicultural education—greater knowledge of other groups and greater respect for other groups—can come into conflict. Still, it seems a fair generalization that, on the whole, greater knowledge is more likely than less knowledge to lead to more rather than less respect.

It is also appropriate for educators to see teaching about groups as helping members of the group being studied (if any are present in the educational setting) to come to have a deeper understanding and affirmation of their own group, its heritage, practices, and sociohistorical experiences. Such affirmation is particularly important for groups that are stigmatized or marginalized—such as African Americans, Native Americans, Muslims, and Latinos, among others, in the United States. Some object that schools should not be in the business of reinforcing particularistic identities of their students. But validating an existing identity in the face of its nonrecognition or devaluation is not the same as deliberately reinforcing it.

A related difference-affirming value is the positive valuing of ethnocultural plurality itself. Virtually every nation in the West, and actually everywhere in the world, is currently ethnoculturally diverse. A goal of multicultural education is to encourage young people to embrace, welcome, and value the diversity of their societies. This value is thinner than "respect for different ethnocultural groups" in not requiring as much engaged understanding of particular groups, but it is broader in embracing all groups (at least within the nation) as a whole, not only each one individually.

The Specter of Relativism

Both of these respect-related values seem to raise a concern often charged against multiculturalism, that it permits no critical stance toward the practices of ethnocultural groups and gives the message to students that any practice that can claim a cultural

source is thereby rendered acceptable. This concern is not without merit, but it has minimal force against multicultural education rightly understood in light of the following points. Some multiculturalist practices skirt the relativism problem by focusing on "heroes and holidays" (or "songs, saris, and samosas"), thereby providing a much too superficial view of the groups studied. More significant is that much learning about groups focuses more on their histories and current social experiences—thus not raising issues of relativism—than on their distinctive cultures. This basic point is somewhat masked by the "culturalist" language of multiculturalism, which can be taken to imply that everything significant about an ethnic group concerns its culture.

Second, learning about and appreciating the importance of cultures *to their members*—how culture provides meaning—does not require either affirming or criticizing those cultures in their own right. Third, to the extent that students are learning about the cultures and values of ethnic groups, these should not be presented as above criticism. If an ethnocultural group regards girls as being less worthy of being educated than boys, students should not be taught that this is fine because it is the culture of the group in question. Nevertheless, being critical of a particular practice or value of a culture does not mean rejecting the ethnocultural group as a whole. As Charles Taylor (1994) pointed out in his seminal article on multiculturalism, ethnocultures can have value even if particular practices within them warrant criticism.

Fourth, while students' critical faculties should be nurtured and not shut down in the name of some misunderstanding of cultural acceptance, it is also important for teachers to recognize blind spots and cultural prejudices that members of dominant groups especially (but not only) might bring to their educational encounter with minority groups. Students' critical faculties have to be nurtured in relation to their own beliefs, values, and practices as well as those of others.

Finally, it is indeed good for students to think through value differences in general and as they are manifested in cultural differences. A blanket universalism about all values is not morally or educationally sound.

Equality-Based Values

Other multicultural goals are best seen as aiming at or exemplifying equality of various forms, rather than affirming differences. "Culturally sensitive (or congruent) teaching" is one. The educational theorist Lisa Delpit (1995) is particularly insightful in insisting that teachers be aware of their students' cultural practices that might bear on instruction. An example is African American students' use of African American Vernacular English (AAVE). Teachers should not portray AAVE as "incorrect English" but should recognize it as a language form, with its linguistic integrity. Otherwise, they will inappropriately devalue African American students through devaluing a cultural modality that may be central to their identity. (Not every African American student speaks AAVE, however.) To do so would violate a standard of equal treatment of students.

Nevertheless, as Delpit emphasizes, teachers should also make it clear to students that they must learn the rules of Standard English, and that they will not be able to access the full range of economic and civic opportunities unless they are able to use it and know when not to do so. So teaching Standard English serves another equality value, that of equality of opportunity, and this can be accomplished without demeaning AAVE. Delpit (1995) gives an example of a young African American girl who is telling a story in AAVE, is asked to restate it in Standard English, does so, but then makes it clear that the particular associations of the AAVE form seem to her to better express what she wants to say in the story (p. 169). If the teacher had appreciated this student's complex linguistic performance, she would have complemented the equality-based values with a difference-based, respect-for-ethnoculture one.

Equality values also underpin teaching students not to be prejudiced or to discriminate against groups other than their own, and social psychologists and educationalists have devised many ways of reducing prejudice through education (Blum, 2009; Stephan, 1999). In addition, students should learn the historical, political, economic, and social obstacles to equality among groups. Finally, they should learn about historical and current attempts and struggles, especially on the part of the disadvantaged groups themselves, to bring about equality between groups.

The language of "culture" can get in the way of recognizing the equality dimension. Treating others as equals or unequals as groups (of persons) is not the same as treating their *cultures* in a respectful or disrespectful way. Many Christians who saved Jews from being killed by Nazis had no respect for Judaism or Jewish culture yet felt that common

humanity meant that Jews should not be killed (Blum, 1994). Human equality differs from cultural respect or equality (if the latter makes sense).

The equality perspective requires us to ensure that the student's identity not be used to discriminate against her, while otherwise being indifferent to whether she embraces that identity or not. The difference perspective enjoins us to accord positive appreciation to the distinctive identity, assumed to be important to the student. Yet the equality and the difference-related dimensions of identity affirming must be bounded by accurate portrayals of the group (not a distinctly multicultural aim but one generally cohering with it).

Race, Culture, and Equality

The perspective of race can help us sort out the difference between equality-based and difference-based threads within multiculturalism. (Race as used here refers to the process of racialization, not the discredited, science-based notion of race [Blum, 2010].) Often, race is not sufficiently distinguished from culture (Ford, 2005), nor is antiracism as an educational project distinguished from the more encompassing one of multicultural education. (It is plausible to use "multicultural education" more narrowly so that it is more clearly seen as a distinct, if partly overlapping, educational project from "antiracist education," but here the more common, if potentially misleading, broader meaning of "multicultural education" will be used.) Race concerns devaluing of and discrimination against persons, not their cultures, and so more clearly zeroes in on issues of inequality.

Many groups are both cultural and racial. African Americans and Latinos both have distinctive cultures (although "Latino" is more of a pan-ethnic designation, embracing many distinct subcultures within it), yet are seen racially by others and treated as such. In addition, African Americans have a distinct sense of themselves as a racial or racialized group, and Latinos have a partial, though growing, sense (Cohn, 2012). Muslims are primarily seen religiously and culturally but also to some extent racially (Modood, 2007, pp. 44–45). As Ralph Ellison (1995) noted, a group may respect and embrace another group's culture yet disrespect its members as persons, as he saw young White Americans doing to African Americans.

Multiculturalism and Social Cohesion

A further aim of multicultural education is social cohesion, promoted by members of different groups learning about one another, sharing schools and classrooms in which such learning takes place, and becoming comfortable with one another. Both the difference-affirming and the equality dimensions of multicultural education encourage affirmative social and civic bonds across ethnocultural differences. Although multiculturalism in society and education has been criticized for encouraging the balkanization of ethnocultural groups (Schlesinger, 1998), only the one inward-looking strand—affirming one's own group—is open to this criticism; and even there, temporary separation can be a step on the way to integration into a larger social whole (a school, the entire society), as the residential ethnic enclaving of new immigrant groups in the United States tended to be.

This discussion has been assuming that the minority ethnocultural groups with which multiculturalism is concerned desire integration as full equals into the larger society. But some internal minority groups may wish only to be left alone or, for example, to be permitted to run schools solely for members of their group. Since multicultural education is not a comprehensive doctrine of educational aims, a case can be made for this option for some groups, such as the Amish in the United States. But this is less than ideal for a culturally pluralistic society.

In any case, it is wrong to think that Muslim immigrant groups in the West constitute such a group, as many White Europeans seem to do. By and large, Muslims seek integration into the Western societies in which they have chosen to live (Klausen, 2005). However, as Tariq Modood (2007) has argued, a normatively satisfactory completion of this process might require European societies to modify a totalistic form of public secularism (most prominently articulated by the French as part of their national culture), allowing some role for religion in the public sphere. It is worth noting that in recent years, the terminology of "interculturalism" has arisen to emphasize the strands of what this entry has called "multiculturalism" that involve interaction between groups and to distance them from the more "separatist" strands (see Waddington, Maxwell, McDonough, Cormier, & Schwimmer, 2012).

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See also Affirmative Action; Assimilation; Citizenship and Civic Education; Communitarianism; Epistemology, Multicultural; Multicultural Citizenship

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Multiple Intelligences: Howard Gardner

As part of a large collaborative project begun at Harvard University in the late 1970s, Howard Gardner (1943–) began his examinations of human potential. In 1983, he published his seminal book *Frames of Mind*, which was republished in new editions in 1993 and 2003. His theory of multiple intelligences asserts that human intelligence is best conceptualized as a constellation of relatively autonomous cognitive competencies. These discrete intelligences allow individuals "to solve problems, or to create products, that are valued within one or more cultural settings" (Gardner, 1983/1993, p. x). The original seven intelligences are (1) linguistic, (2) logical-mathematical, (3) spatial, (4) bodily-kinesthetic, (5) musical, (6) interpersonal, and (7) intrapersonal. Gardner refined his theory after its original publication, proposing naturalist and existential intelligences as potential additions (Gardner,

1999, 2006). This entry discusses Gardner's criteria for an intelligence, the elements of each intelligence, and criticisms of multiple intelligence theory.

Multiple intelligence theory challenges traditional psychometric approaches to the study of intelligence in that it does not rely on cognitive tests and close examination of the correlations among test scores. Instead, Gardner's theoretical rationale is rooted in neurological, evolutionary, and cross-cultural evidence. He derived this conceptualization of intelligence in part from his experiences working with members of extreme populations, in which certain cognitive abilities are preserved (often to a remarkable degree) even in the absence of other, very basic abilities. For example, some autistic savants display extraordinary musical or mathematical abilities despite severely impaired language development and social awareness. This suggested to Gardner that music, math, language, and social awareness might be powered by different (metaphorical) reservoirs of mental energy. Likewise, individuals with localized brain damage often demonstrate severe deficits that are circumscribed to a single cognitive domain or ability (Gardner, 1983/1993/2003). For example, some individuals who have experienced stroke or trauma in particular areas of the brain may lose their ability to recognize faces, but nothing else. This condition, called *prosopagnosia*, also suggests that human intellectual ability may be more differentiated than mainstream conceptualizations of intelligence acknowledge.

Gardner articulated several inclusion criteria for candidate intelligences, although he was also clear that meeting all of the criteria perfectly is probably not realistic. The criteria include (a) potential isolation by brain damage (as in *prosopagnosia* and many other syndromes); (b) existence of individuals with exceptional but uneven profiles of abilities (e.g., savants and prodigies); (c) identifiable core information-processing mechanisms that correspond to a particular intelligence (based on neurological findings); (d) a distinct developmental trajectory in humans, along with definable "end-states," that makes it possible to identify both novices and experts within a given domain; (e) an evolutionary history that suggests that a particular intelligence has evolved within humans over time or is present in lower life forms (e.g., birdsong and musical intelligence); (f) experimental support; (g) psychometric support; and (h) encoding in a symbol system (e.g., music, language, and mathematics can be communicated symbolically).

The Intelligences

Linguistic intelligence enables individuals to read, write, and speak well. It holds up well as a candidate intelligence in that it can be isolated by brain damage (e.g., to Broca's or Wernicke's areas); linguistic prodigies and savants exist in the population; neuroscientists have identified specific linguistic information-processing systems in the brain; it has a distinct developmental trajectory and an evolutionary history in our species. And of course, language is encoded in many symbol systems.

Logical-mathematical intelligence encompasses logical thinking (as might be used in chess or deductive reasoning) as well as mathematical and scientific problem solving. Like language, it too can fall victim to isolated brain damage, creating a set of conditions that fall under the heading "dyscalculia" (analogous to "dyslexia" for language). Savants with autism often display remarkable mathematical prowess, as do nondisabled children who have been identified as math prodigies. Math ability is evidenced in developmental and evolutionary histories, and it also is codified in many symbol systems.

Spatial intelligence makes its appearance when an individual navigates an unfamiliar set of streets or when an architect visualizes his or her plans for a building. Many mainstream intelligence tests assess spatial ability by asking examinees to mentally rotate an object by a specified number of degrees and then select its image from several options on a page. Thus, there is ample experimental and psychometric support for its existence. There is some evidence for a developmental trajectory (e.g., Piaget & Inhelder, 1956) and copious neurological evidence for visual–spatial processing systems in human and nonhuman brains. Damage to the right parietal lobe of the brain can cause serious problems with spatial reasoning while leaving other abilities (e.g., language) intact.

Bodily-kinesthetic intelligence is necessary for problem solving that requires the individual to use his or her physical body, as would be necessary for performing a complex surgical procedure, executing a series of dance steps, or catching a fly ball. Some syndromes and brain traumas can disable a person's ability to use the physical body, leaving intelligence otherwise intact. Tool use among nonhuman animals and precursors to *Homo sapiens* demonstrate

a clear evolutionary history. A developmental trajectory is clear as human children develop fine and gross motor skills. Dance can be thought of as a symbol system that communicates meaning through movement.

Musical intelligence generates the set of skills that allow musicians to play a tune by ear or to execute a phrase with sensitivity and grace. Savants and prodigies sometimes demonstrate remarkable musical ability, in a way that is quite out of proportion with their other abilities. The development of musical ability in humans follows a predictable developmental sequence, and there is abundant evidence of an evolutionary history (e.g., birdsong). Patients who have Alzheimer's disease can often sing long after they have lost the ability to speak, and some nonverbal stroke patients can be taught to sing. Like the other intelligences, music has a highly structured symbol system that can be used for communicating and receiving meaning.

Interpersonal intelligence drives social skills and things like empathy and intuition about what motivates other people—a type of understanding that is necessary for salespersons, teachers, and clergy, for example. The evolutionary history of this intelligence can be seen in all relational animals. Its developmental trajectory in humans is evidenced as young children move from preoperational egocentrism to an awareness that other people have minds separate from their own (e.g., Piaget & Inhelder, 1956). It is arguable that interpersonal intelligence is what is lacking in certain people with autism spectrum disorders; confused by complex social rules and expectations, they are otherwise highly capable individuals. Intrapersonal intelligence involves a similar set of abilities, but these are turned toward the self; individuals who have high intrapersonal intelligence have an accurate self-understanding and can use this to their advantage in problem solving.

Since his initial proposal of the seven intelligences, Gardner (1999, 2006) has added two more candidates, *naturalist* and *existential*, while largely dismissing the idea of the promising candidate spiritual intelligence. Individuals with high naturalist intelligence have the ability to identify and classify patterns in nature and often show unusual interest in the natural world early in life. People who possess high existential intelligence are better able than most to make sense out of the "ultimate" concerns of human beings, such as the meaning of life and death, or the puzzle of the existence of single individuals in a vast and empty universe. Although Gardner proffers this final intelligence very cautiously, the limited evidence that has been gleaned suggests that it meets the same empirical criteria as the original seven.

The relative cultural value assigned to various intelligences is also a matter of interest and concern to Gardner and others who support multiple intelligence theory. Gardner (1993/2003) asserted that logical-mathematical and linguistic intelligences are overemphasized in traditional models of human intelligence but that this may be a cultural artifact; in different cultural circumstances, other intelligences would take on a higher significance. For example, spatial intelligence might have precedence in a hunter-gatherer culture, where navigation across terrain is paramount to survival. In the 21st century, spatially impaired individuals can rely on GPS (global positioning system) devices to find their way home. As such, difficulty with spatial tasks may have relatively little impact on their ability to live a rich, full life. However, people with language or math challenges often face considerable challenges in the academic and professional realms.

Criticisms of Multiple Intelligence Theory

Gardner's theory of multiple intelligences has been widely embraced by educators, in particular classroom teachers. This is perhaps because it provides a framework for articulating and operationalizing what many, perhaps especially teachers, want to believe about human beings: That is, we are all unique, and we each have the potential to be excellent in different areas. This popular interpretation of multiple intelligence theory almost certainly is not shared by Gardner. But this is how it is often viewed.

Scholars working in psychology have been far less willing to embrace this novel approach to intelligence theory. The criticism is probably not surprising given that this theory differs so substantially from previous efforts to understand the human intellect. Some criticism stems from the relative lack of psychometric support. Some of the proposed intelligences do not easily lend themselves to psychometric assessment, and there are methodological issues with many traditional assessments that tend to bias results against multiple intelligence theory. For example, compare the conflicting results of recent attempts to assess the intelligences, such as Almeida et al. (2010); Castejon, Perez, and Gilar (2010); and Plucker, Callahan, and Tomchin (1996). Some

critics have suggested that the intelligences are better conceptualized as talents or abilities. Jensen (1998, p. 129), in a wide-ranging critique, finds Gardner's criteria to be too vague or "elastic," arguing that many of the intelligences as currently described are not sufficiently distinguishable from the general intelligence (*g*) found in many experimental and psychometric settings.

Gardner himself has publicly addressed many of these criticisms (see, e.g., Gardner, 1995, 2006), but it is probably safe to conclude that mainstream psychologists who value traditional psychometrics find multiple intelligence theory to be severely wanting; however, educators and psychologists who favor culturally derived, contextualized developmental theories find a lot to like in Gardner's approach to intelligence.

Jonathan A. Plucker and Amber Esping

See also Abilities, Measurement of; Intelligence: History and Controversies

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MULTIVERSITY

The concept of the multiversity was introduced into the literature on higher education by Clark Kerr in his 1963 book *The Uses of the University.* He analyzed the history and development of universities in the United States and identified a new type of university—the multiversity—that had emerged in the postwar period, a time when new knowledge became the most important factor in economic and social growth. In contrast to earlier universities that focused on a single purpose, like the residential undergraduate college or the German research university, the multiversity combined many, often conflicting, purposes. The multiversity had undergraduate, graduate, and professional education, and its faculty members conducted both pure and applied research. The multiversity was autonomous but served national purposes. The word *multiversity* refers to the type of university identified by Kerr and also has come to be associated with Kerr's analysis of the role of the university in postwar America.

Kerr identified the multiversity in his Godkin Lectures, delivered at Harvard University in 1963 and then published as the volume *The Uses of the University.* He examined universities in America, which he saw as connected to the past; however, one group was evolving in a new direction. What had emerged at the top of the ecosystem of higher education was the truly modern university—the multiversity. At roughly 10-year intervals until 2001, Kerr extended his analysis, republishing the book with the original lectures and adding chapters. Few were better qualified to offer such analysis of the university in America: Kerr had been chancellor of the University of California, Berkeley (1952–1958), and president of the University of California (1958–1967), and he went on to chair the Carnegie Commission on Higher Education.

Kerr wrote that the first universities started out as a single community united around a single animating idea. In contrast, the multiversity was a conglomerate of several, often conflicting, ideas.

In the past, there had been two great "ideas," or ideals, of a university in the United States. The first was that of Cardinal John Henry Newman, set out in a series of lectures given in Dublin in 1852 and published as *The Idea of a University* in 1873. For Newman, the university was a place of undergraduate liberal education; not a place of research. It was

a place of teaching and learning, of knowledge for its own sake—his idealized vision of Oxford in the mid-19th century. Such universities have the residential college as the primary unit.

The second ideal was that of Abraham Flexner, set out in his book *Universities: American, English, German*, published in 1930 but presaged in his influential report on medical education in the United States, which recommended increasing education in science for physicians and having medical faculty engage in research. For Flexner, the heart of the university was the graduate school of arts and sciences, the professional faculties of medicine and law, and, more broadly, the research enterprise, particularly pure as opposed to applied research—a vision represented by the University of Berlin in the late 19th century. Such universities have the academic departments as the primary unit.

Kerr recognized that certain large American universities were a combination of these two ideas of a university and so at their heart had a crucial tension between undergraduate education and research. American universities had also combined another ideal represented by the land grant colleges, established following the federal Morrill Act of 1862. The federal government granted lands to the states to be used to establish and fund colleges that would have faculties of engineering, agriculture, home economics, and business administration and would open their doors to children of the working class. Kerr recognized that the German research ideal and the land grant ideal were not as incompatible as it might first appear—they both served an industrializing nation, and they both did so through research and the training of skilled workers.

For Kerr, the multiversity emerged in the 1960s, combining these ideas of a university and responding to the transformation of the postwar economy, an economy that needed skilled workers and new knowledge as never before. Governments greatly expanded their funding of universities, supporting the move to mass university education and massively increasing support for research at universities, especially research in basic science, engineering, and biomedicine that addressed national priorities related to defense, atomic energy, and health. The federal research support flowed to a relatively small group of leading universities. Kerr saw the multiversity as a pragmatic response to the forces of history, not a reasoned choice among elegant alternatives. Furthermore, he viewed the multiversity as a truly American university, an institution unique in world history and one that would become a model across the world.

A decade after Kerr's 1963 lectures, the Carnegie Commission on Higher Education developed the Carnegie Classification of Institutions of Higher Education, characterizing the institutions by degree/credential awarded. Among the doctorate-granting universities, it further characterized institutions by the relative emphasis on research (measured largely by the receipt of federal research funds). The top group of doctorate-granting universities, the most research-intensive universities, was made up of the multiversities. They averaged about 35,000 students (33% at the graduate level), were highly selective in their admissions, granted many doctorates across a range of fields, and placed great emphasis on high-quality research.

Some writers have used the term *multiversity* to refer to large, multicampus universities; but Kerr's concept emphasizes that the multiversity is a pluralistic institution.

Many writers at the time and since have been critical of Kerr and of the multiversity—some because of their loyalty to another idea of a university, more because as Kerr explained the multiversity, he seemed to celebrate and endorse it, even its close connection to government and business as part of the knowledge industry. Kerr had been chancellor of the University of California, Berkeley, during the anti-Vietnam war, the civil rights protests, and the Free Speech Movement, and during his term, hundreds of students were arrested on campus. The messenger made the message about the multiversity highly controversial.

George Fallis, in *Multiversities, Ideas, and Democracy* (2007), accepts Kerr's analysis of the modern research university as a pluralistic institution but argues that it is not simply an American creation. The same strands of history were creating multiversities across the Anglo-American world at about the same time. Fallis also argues that there was an equally important transformation in the political sphere during the postwar period—the creation of the welfare state—and that the multiversity should be understood also as a response to this. There should be another idea embedded in the concept of the multiversity, and that is the university as an institution of democracy: an autonomous center of authority, a countervailing power to government and business, and a source of social criticism.

Whatever the critique, there can be little doubt that the American multiversity has become a model

for other countries. And the conflicted pluralism, so presciently identified by Kerr, has become the character of all modern universities, not just the big research universities.

George Fallis

See also Economic Development and Education; Higher Education: Contemporary Controversies; Newman, John Henry (Cardinal); Pure and Applied Research and *Pasteur's Quadrant*

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Murdoch, Iris

A prolific novelist and philosopher, Iris Murdoch (1919–1999) published 26 novels, three of which won major prizes, three plays, two volumes of poetry, numerous philosophical essays, three philosophical books, and two Platonic dialogues. Her major essays are collected in *Existentialists and Mystics* (1997) and *The Sovereignty of Good* (1970). Her first book-length work in philosophy was *Sartre: Romantic Rationalist* (1953). She wrote a study of Plato's ideas on art and philosophy in *The Fire and the Sun: Why Plato Banished the Artists* (1977). Her two dialogues are published as *Acastos: Two Platonic Dialogues* (1986). Her magnum opus in philosophy is the massive *Metaphysics as a Guide to Morals* (1992). She had been working on a study of Heidegger and was on her 27th novel when she began to suffer from Alzheimer's disease and was unable to complete these works.

Murdoch's contribution to the philosophy of education should be seen in the context of her metaphysical realism. For her, there are truths about the world and about the human condition that education, properly pursued, can illuminate. These truths concern the nature of the human soul or psyche as naturally and relentlessly selfish; our capacity for what she calls "unselfing," the ability to overcome our selfish nature and see reality truly; and reality as including the nature of the human condition as subject to contingency, chance, and death. For Murdoch, art and intellectual studies are educational because they are especially suited to this task of unselfing by promoting the development of qualities of mind and character she calls virtues. She frequently acknowledged Plato as her inspiration.

Murdoch links education in art and intellectual studies with a pervasive case of unselfing: our untutored appreciation of beauty in nature. Great art links us with this simple sense of beauty, but for Murdoch, most art fails to do so because it is mere self-consoling fantasy: Good triumphs over evil, true love overcomes all obstacles, and the like. Most art presents what she calls false unities, by which she means an illusory sense of completion. Great art breaks this illusion, and Murdoch cites tragedy as especially good at getting things right about the world, especially about the unintelligible fate of an individual person, the suffering of innocents, or the nature of evil. Great art does this because its form presents us with the independent existence of something fine and excellent. The novel also has a key place in education, because it can depict what escapes the grasp of even great art, both the inevitable contingency and awfulness of human life and what she calls its "funniness" and absurdity. Reading and reflecting on novels thus can and should be a moral experience.

The phenomenon of unselfing depends essentially on the qualities of mind and character that both the artist and the consumer of art need: virtues of courage, truthfulness, patience, and humility. Murdoch claims that art is the most educational of all human activities. So to learn to appreciate art is to learn to exercise the virtues.

Murdoch also finds in what she calls *technai*, by which she means intellectual studies, another source for freeing ourselves from our selfishness and for connecting us with reality. She uses the example of learning a foreign language to explain the sense that the same concepts are at work here as in her discussion of great art. Achieving fluency in another language is to come to learn something that was originally quite alien but whose independent existence must be appreciated. Intellectual studies generally—for example, mathematics, history, the

sciences, philosophy—enable us to pierce the veil of the selfish soul by presenting ways in which the world looks behind the appearances that the selfish soul takes for reality.

Murdoch's Platonism is one of the key elements in her understanding of education. She believed that the means to get things right should be taught in schools, and doing so requires that teachers embody the virtues and that students learn to exhibit them in their studies. Virtues, for her, enable us to connect with reality. She also appropriates Plato here to bridge the gap between the good artist or good scientist and the good person. Morality, which for her means the achievement of the fine qualities of attention and truthfulness, which provide a source of energy for right action, is more difficult than art and intellectual studies because human beings are more complicated than paintings, novels, or theories. Her debt to Plato is also evident in her argument that there is a higher good than the good of any of these activities. Even great art and impressive scientific theories must be understood in the context of one's life and one's community. We still have to decide what should be the place of these products and activities in our lives. But that decision, an inescapably moral one, requires the very same virtues that she claims are necessary for the creation and appreciation of great art and for the mastery of intellectual studies.

Murdoch offers an image of human beings that befits both the novelist and the philosopher: Human beings make pictures of themselves and then come to resemble the pictures. The task of education is to develop the virtues so we can evaluate these pictures and distinguish those that merely feed our fantasies from those that connect us with reality.

The central role that the virtues play in Murdoch's philosophy of education links up very naturally with the work of Alasdair MacIntyre and Michael Oakeshott.

William Evans

See also Aesthetic Education; MacIntyre, Alasdair; Moral Education; Oakeshott, Michael; Plato; Virtue Ethics

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Muslim Educational Traditions

It is a widely accepted fact that under centuries of Muslim rule, areas from Andalusia to Samarkand and from Cairo to Delhi were home to vibrant and often world-leading traditions of teaching and learning. In the process, there emerged a diversity of positions on knowledge, teaching methods, and student learning. These traditions thrived in places such as mosques, *kuttabs* (places of elementary education), and *madrasas* (institutions of higher learning), as well as in libraries, palaces, and centers of translation.

The impetus for education was a combination of a religious quest to understand the will of God in order to fashion personal and collective life in its light, a search for useful knowledge to run empires, and the attraction of the Hellenistic, Persian, and Indian intellectual heritages. The educational traditions of Muslims provide an impressive example of the movement of ideas across human cultures. The pedagogical writings of Muslims owed much to the Hellenistic tradition. In turn, the ideas and practices of Muslims made deep imprints on medieval European scholastic thought, so much so that no good history of education in Europe can be written without engaging with these exchanges. This entry will expand on these themes.

Historiographical Issues

At the outset, two historiographical issues need to be noted. The first relates to sources that are available to study the history of education in Muslim societies. Although the sources go back to the first decades of Muslim history, it is from the latter part of the 8th century and onward that they exist in

substantial numbers. By this time, Muslim societies had evolved a variety of doctrinal positions that influenced epistemological thought and educational practices. Thus, the different doctrinal positions of Sunni, Shia, and Khariji interpretations—rooted in varied stances toward religio-political authority after the death of Prophet Muhammad in 632 CE—generated diverse approaches to authentic knowledge and how to acquire it. For example, the criterion to establish the authenticity of the sayings of the Prophet is different among the Sunnis and the Shias.

Second, the educational traditions were shaped by the early political and military successes of Arab Muslims, which created a nexus of faith and power. Within decades of Prophet Muhammad's death, Islam became the religion of an empire spreading from the shores of the Atlantic to the borders of China. These lands had long-established intellectual traditions that in time became interwoven with ideals, doctrines, and perspectives drawn from the sacred sources of Muslims. Conversion of people well versed in these traditions of learning as well as translations of books from different languages into Arabic played a key role in this process. Bait al-Hikma (House of Wisdom), a library and translation center established by the Abbasid caliph al-Ma'mun (d. 833), was the most famous site for such translations.

An important consequence of the above was that though there always remained a degree of autonomy and separation from the state, education as a site for controlling knowledge and a moral vision of society was never without political patronage and influence. Thus, for example, the Seljuq dynasty in the 11th century propagated its ideology through what came to be the foremost educational institution—the madrasa (literally, "a place of study"; traditionally a place of higher learning in a variety of fields, particularly those associated with religious sciences). The Fatimids, a Shia dynasty from the 10th to 12th centuries, was also very active in state-supported educational activities.

Educational Thought

In recent years, the idea and practice of education in the Muslim tradition has drawn increasing scholarly attention, bringing to light several works devoted to the question of the transfer of knowledge across generations. In this regard, al-Jahiz's (d. 869) *Book of Teachers*; Ibn Sahnun's (d. 870) *Etiquettes of Teachers*; al-Farabi's (d. 950) *Enumeration of the Sciences*, *Epistles of the Brethren of Purity* (10th century); al-Zarnuji's (d. ca. 1223) *Instruction of the Students: The Method of Learning*; Qutb al-Din al-Shirazi's (d. 1311) *Pearls of the Crown*; and various writings of al-Ghazali (d. 1111) and Ibn Sina (d. 1037) have received particular attention.

The importance of learning in the early years of a child's life was well known; al-Ghazali compares learning at this age to engraving on a stone. Elementary education generally began at age seven, though an earlier start was also not unusual. Just and equal treatment of pupils was seen as a paramount pedagogical principle. One source observes that on the Day of Judgment, teachers will be questioned about their impartiality toward students, rich or poor. This attitude may have contributed to making education a route to social mobility and esteem for many.

Though memorization was the predominant pedagogical mode, in part based on the underlying conception of knowledge as fixed, transmittable, and objective, this was supplemented with other modes. Pedagogy in philosophical studies was highly textual and combined self-teaching and studying with a tutor. Medicine required apprenticeship, personal reading, and tutoring. In *fiqh* ("jurisprudence"), there was a combination of oral instruction, textual studies, and debates (*manazara*). Sufis gave central importance to initiation and guidance by a spiritual master (*murshid*), with very limited textual studies. In all cases, the ideal was to put knowledge into practice; a learned man was expected to be a good man.

Some authors sought to balance the emphasis on memorization and textual studies with reasoning capacities. al-Jahiz sought such a synthesis:

> The true proposition and the praiseworthy judgment is that, when [a student] learns only by memorization, this harms deductive reasoning; and when he uses only deductive reasoning, this harms learning by memorization—even if memorization has a more honourable rank than [deductive reasoning]. So, when he neglects rational reflection, ideas do not come quickly to him, and when he neglects memorization, [these ideas] do not stick in his mind or remain long in his heart. (Quoted in Günther, 2005, p. 121)

Debates About Knowledge

From a theoretical perspective, perhaps the most important contest was over the question of authentic

knowledge and its access, for after all salvation was believed to depend on such knowledge. al-Ghazali, in his *al-Munqidh min ad-Dalal* (Deliverance From Error), identifies four competing epistemological positions concerning the path to truth and salvation.

We can approach the debates about knowledge by considering an epistemological division that came to be associated with what were called *al-'ulum al-naqliyya* (the transmitted sciences) and *al-'ulum al-'aqliyya* (the sciences of reason). The former consisted of the study of the Quran and the life of the Prophet, and all that can be derived from them; this knowledge was seen as coming directly from God, and hence humans could only transmit it. *'Ulema* (religious scholars) as the guardians of this knowledge play a central role in Muslim educational traditions. In contrast, *al-'ulum al-'aqliyya*, which included philosophy, astronomy, medicine, mathematics, and other disciplines, were underpinned by the belief that knowledge was derived from the senses and reason and not, or not only, from divine revelation. (This is one particular formulation of the classification of knowledge; others are available, but they share a similar epistemological outlook.)

These epistemological attitudes, sometimes identified as those stressing either reason or religious authority, were often in tension with each other. In a context dominated by religious ideas, it was the philosopher (the paradigm case of *al-'ulum al-'aqliyya*) who had to legitimize his stance by arguing for the complementarity of reason and religious authority as sources of knowledge and/or by seeking the justification of philosophy in religious terms. One approach can be found in a work by Ibn Rushd (d. 1198). The second approach can be found in a work of philosophical fiction, or an extended thought experiment, called *Hayy Ibn Yaqzan* (Alive, Son of Awake), written by Ibn Tufayl (d. 1185). In this story, Hayy grows up on an uninhabited island and is cared for by a gazelle. Through unaided reason, he gradually acquires the knowledge of essences and existence, and he experiences states that were believed to be beyond the grasp of the human senses. Through the encounter of Hayy with another character, Absal, a pious religious person from a neighboring island, Ibn Tufayl seeks to show that philosophical reason could lead to the ultimate truth—the same truth that was also symbolically hidden in the religion of the ordinary people, though most of them were unable to reach it. Thus, the book claimed harmony between philosophical practice and religious teaching.

While Ibn Tufayl approached the issue of reason and authority in a fictional narrative, his younger friend Ibn Rushd approached the issue more directly. In his *An Authoritative Treatise and Exposition of the Convergence Which Exists Between the Religious Law and Philosophy*, Ibn Rushd made a case for philosophy as a legitimate activity within the Islamic legal framework. The central thesis of the treatise was that philosophy was justified by the Quran, and in fact, those who have the capacity to engage in it have an obligation to do so. Demonstrative methods of philosophy (in which a deduction from accepted premises produces knowledge), Ibn Rushd argued, led to the reconciliation of any apparent conflicts between the teachings of scripture and philosophical conclusions derived through an allegoric interpretation of the Quran.

Ibn Rushd—and perhaps Ibn Tufayl as well—was responding to an earlier critique of philosophy by the theologian al-Ghazali, who objected to specific aspects of the philosophic tradition. In his *Tahafut al-Falsifah* (Incoherence of Philosophers), Ghazali had criticized philosophers' claims about demonstrative methods and about accessing certain knowledge of metaphysical realities. His intention was to show that truth was found neither in reason nor in sense perception but in religious orientation, particularly in *kashf* (the unveiling or self-revelation of the truths to human hearts). Aided by many political developments, the Ghazalian position gradually became predominant (though never completely so) and came to underpin much of the educational tradition of Muslims.

Muslim Educational Thought in the Modern Period

Both educational practice and thought took new forms in the modern period, though the legitimizing role of the traditional ideas remained strong. The 18th and 19th centuries saw the beginnings of an upheaval in Muslim educational traditions as large parts of the Muslim world came under the influence of colonial powers. Modernity, in its colonial form, was transformative for Muslim societies, as it was for other non-European societies. The European rule not only was a change in military terms but also led to the rise of a new culture that challenged almost all aspects of Muslim tradition, including the intellectual and educational aspects. Modern schools, higher education institutions, new official languages, and, above all, a new

epistemology—all challenged the traditional education of Muslims.

Those who were later designated as modernists, be it at the level of the state (Ottoman Sultan Selim III [r. 1789–1807]) or in society (Sayyid Ahmad Khan [d. 1898] in South Asia or Rifa'a al-Tahtawi in Egypt [d. 1873]), saw the new situation as requiring a significant or even fundamental change in the education of Muslims. Others, often termed *traditionalists*, believed that a revival of intellectual life rather than replacement with European ways should be the way forward to regain the glory of Islam and Muslims. The founding of Dar al-'ulum Deoband (a seminary in the city of Deoband in northern India) in 1867 was a seminal event in this regard. Still others aimed at finding a middle way between what they saw as extremes of Muslim responses to the new realities. Underpinned by a desire to reconnect hope and history for Muslims, the Muhammadan Anglo-Oriental College (later Aligarh University), Deoband Madrasa, Sadiki College, and reformist trends at al-Azhar and Dar al-'uloom Nadwatul 'Ulama were examples of new institutional experiments reflecting these educational outlooks.

Many postcolonial states in Muslim-majority countries, adopting the modernization paradigm and human capital theory, promoted modern schools and universities, within which there was a provision for religious instruction. Religious education was thus a subject among others and as such served as part of the state's economic and nationalistic agendas. This objectification of religion as a school subject within the broader educational system is a common feature across most Muslim countries. Despite state support, modernist education in most Muslim-majority societies suffers from underinvestment, lack of planning, gender inequality, unsatisfactory pedagogical quality, and poor governance.

Alongside this, the traditional religious system retained its moral relevance and continued to flourish. Institutions such as al-Azhar in Egypt, Zaytunia in Tunisia, and Deoband in India retained their religious authority with various negotiated arrangements with the state. Thousands of *makatibs* ("elementary schools") and madrasas across the Muslim world continued to provide religious education.

The vast majority of Muslim children straddle the two systems, receiving education in science, math, languages, history, and other subjects in schools and attending *makatibs* and madrasas for a few hours daily or weekly for religious, particularly Quranic recitation, and moral instruction. Thus, the main educational response to the currents of modernity in Muslim societies has been to juxtapose the new and the old, the traditional and the modern schools and universities. An exception was Turkey under Kemalism, where the makatib–madrasa system was abolished, but only for a time.

This situation was seen as philosophically unsatisfactory by several Muslim scholars who found the dual educational system to be creating a fragmented personality among learners. For some scholars, the underlying tensions were reminiscent of those between reason and authority in Muslim educational history. The problem of a dual system was among the main diagnoses by a seminal conference on Muslim education held in Makkah in 1977, calling it the main source of the crisis in Muslim education. Fazlur Rahman (d. 1988), arguably the most prominent Muslim scholar of the second half of the 20th century, saw Muslim education as caught in a "vicious circle" of poor curriculum and poor teachers.

In response, scholars sought to find a unifying system of education (often invoking the unity of God as its justification) transcending what was seen as the religious and secular divide. In this, they have followed the footsteps of al-Ghazali, seeking to subordinate reason to revelation. Three Arabic terms—*Ta'lim* ("to know/instruct"), *Ta'dib* ("to be refined/disciplined"), and *Tarbiya* ("to grow/nurture")—are often used to refer to education in the Islamic sense. While people such as Ismail Faruqi (d. 1986), Naquib al-Attas (b. 1931), and Ali Ashraf (d. 1998) worked by stressing the differences between what they called Western and Islamic education, more recent scholars, such as Sahin (2013) and Waghid (2011), have attempted to find common ground between the two. All these efforts are underpinned by a desire to combine loyalty to the Islamic faith with material success in the modern world.

These efforts have their critics, including among Muslims, who question the very idea of Islamic education and the search for a distinctive Islamic epistemology and pedagogy. For them, religion should not be encroaching on the autonomy of science, history, mathematics, and other subjects.

While many are concerned about the division of education in Muslim societies along secular and religious lines, equally important fragmentations remain in place along some other dimensions, such as military and civil, and private education and public education (which, in some instances, means private elite and resource-starved public systems), and

there is also an educational divide along gender lines. Though not limited to Muslim contexts, these other lines of fragmentation are sometimes overshadowed in academic discourse by the attention given to the religious/secular divide.

Farid Panjwani

See also Childhood, Concept of; Jewish Educational Philosophy; Modernization Theory; Religious Education and Spirituality; Religious Symbols and Clothing

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N

Narrative Research

Narrative is a primary and universal cognitive instrument, found in all cultures. While the kinds of stories people tell vary from culture to culture, the storytelling impulse itself seems to come quite naturally to us—storytelling is a ubiquitous human activity. We tell stories as easily and effortlessly as we grasp the stories of others. Louis Mink (1978) argues that narrative is an irreducible way of making the flux of experience comprehensible to ourselves and to others. Narrative as the practice of storytelling has thus been with us for a long time, and so has narrative theory, which is commonly traced back to Aristotle's *Poetics*.

Today, the idea of narrative has found its way into almost every discipline and profession. Since the 1960s, there has been a veritable explosion of narrative research, and it is now very much a cross-disciplinary study. We find narrative research in history, literature theory, education, psychology, anthropology, sociology, and communication studies and in professions such as medicine, law, teaching, nursing, social work, and many forms of therapy. Donald Polkinghorne (1988) argues that narrative is the basis of practitioners' work. Arguably at least, partly as a result of this proliferation, the term *narrative* is used in a variety of ways by different researchers in different domains. Catherine Riessman and Jane Speedy (2007) hold that the term has come to mean anything and everything; specificity has been lost with popularization. The term can refer to ideologies, overarching paradigms, entire life stories, observations, small interview excerpts, and documents. The prospects of a single unitary definition of narrative thus might seem slim. However, most narrative researchers insist that all uses of the term have something in common, something that distinguishes narrative from other discourses. This entry defines narrative as a form of representation and discusses how a narrative can be the subject of study, can provide data in the form of interviews, or can be the form of the report that is generated from a study.

A narrative, or a story, is a grasping together of diverse elements such as characters, plots, actions, and events into a meaningful, coherent, and temporal whole marked by a beginning, a middle, and an ending (Ricoeur, 1984). These conceptual presuppositions go back to Aristotle. The process of "grasping together" is done by a narrator and is known as emplotment or narrative configuration—that is, finding a "plot," an organizing principle that allows the pieces of the story to fall into place in relation to each other. The focus is on the particular, not the general. Virtually, all narrative researchers highlight temporality, sequences of events, and wholeness.

Narrative is thus a form of representation that by its structure differs from other forms of representation, such as theory, chronicles, formulas, or reports. But is it also a distinct form of research? Narrative research is a broad heading. It is largely seen as a subfield of qualitative research, but with a great diversity of strands—realist, modernist, postmodernist, constructivist, and so on—that are played out differently in different domains. The landscape of narrative inquiry is quite complex, with borderland spaces and tensions, for example, as discussed by

D. Jean Clandinin and Jerry Rosiek (2007). Narrative research shares many of its dimensions with other qualitative methodologies: (a) the emphasis on the particular words as data, (b) the importance of context, (c) the acknowledgment of the subjectivity of the researcher, (d) the importance of the relationship between the researcher and the participants, and (e) the voice of the participants. Despite these similarities and overlaps, narrative empirical research can still be distinguished from other forms of empirical (qualitative) research: Stories come into play in narrative research in different ways.

First, stories may constitute the phenomenon under study. This is uncontroversial if taken to mean that narrative researchers study the stories people tell, how they tell them, and when, why, and to whom. But here we find an important distinction in the field: between stories as told and stories as lived. Clandinin and F. Michael Connelly (2000) argue that stories are not only told but also lived, expressed in people's experience that is narrative in nature. Narrative inquiry should therefore first and foremost concern people's experience, they argue. The more common view is that stories are told and that experience does not necessarily have narrative form but is given this form in the telling (e.g., Currie, 2010; Danto, 1985; Mink, 1978; Ricoeur, 1984). This view generally pays more attention to the facets of configuration and the role of retrospection and hindsight, since stories about events or happenings are told after the fact.

Second, stories come into play in narrative research because they (can) constitute the data. Riessman (2008) argues that researchers and participants together construct the narratives that the researcher then uses as data. The method used is often interview, but the data are cast in narrative form before being analyzed by the researcher. The analysis of the data can then proceed in different ways, for example, thematic, structural, performance, or visual analysis (using both pictures and words as data). It is important to Riessman that the narratives used as data are co-constructed by the researcher and the participant and that the story is kept as a whole throughout the analysis, not parsed into segments. Narrative inquiry is basically case centered, not theme or category centered.

Third, stories enter into research because the researcher may write up his or her report in narrative form. That is, one may write up one's research report as a story with a plot, characters, events, and actions, satisfying the demands of coherence and temporal wholeness. For Clandinin and Connelly (1991, 2000), for example, narrative is the best way of representing and understanding experience because narrative thinking is a key form of experience. The form of representation is thus thought to reproduce and reconstruct the narrative structure of the material.

Human discourse proceeds on certain standards and ideals for evidence, inferential strategies, truth, and so forth, and in research, these demands are higher than in everyday discourse. Narrative research has been criticized for eschewing time-honored epistemic values such as truth and objectivity and overemphasizing the subjectivity of the researcher. This is certainly true of some strands of narrative research, but not necessarily of all—the philosophical background of narrative research is unclear, and its epistemological commitments vary from strand to strand. In a similar vein, narrative research is criticized for using criteria of evaluation that fail to distinguish between fiction and empirical research, between good and true stories (e.g., Phillips, 1997). Narrative is also criticized for resembling rhetoric more than research to the extent that it seeks to persuade the audience with a compelling story rather than convince it with a story backed with evidence—however, the picture is complex and allows no generalization.

Tone Kvernbekk

See also Aristotle; Knowledge, Analysis of; Postpositivism

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Neill, A. S., and Summerhill

Summerhill, a pioneering experiment in progressive and democratic education, was founded in 1921 by A. S. Neill, and is today a coeducational boarding and day school located in Suffolk, England, directed by Zoe Readhead, Neill's daughter. Begun as part of an international school called the Neue Schule near Dresden, Germany, the school soon moved to a castle on top of a mountain near Sonntagsberg in Austria, and in 1923 to the town of Lyme Regis in the south of England, to a house called Summerhill. In 1927, the school moved to its present site at Leiston in Suffolk, keeping the cheerful name Summerhill. During World War II, the school community evacuated to Wales for a time so that the British Army could use the site as a training facility, returning after the war to a run-down place.

Neill founded Summerhill when he was 37 years old and already well-known in England for his critical writings on education and child psychology. He had been influenced by the intellectual revolution of Sigmund Freud, by the juvenile-prison reformer Homer Lane, and by the controversial psychiatrist Wilhelm Reich, and he was by his own estimation in flight from his Calvinist upbringing and from the tyrannical rule of a cruel father.

Summerhill school has been running continuously since 1921, and it has consistently adhered to its essential character and philosophy, which can be concisely stated as the belief that the school should be made to fit the child, rather than the other way around, and that the function of the child is to live his or her own life—not the life that anxious parents think best, the life prescribed by authoritative and certified experts, or the life approved by convention and social norms. Neill advocated free thinking, initiative, and courage and railed against the forces of obedience and conformity. Neill believed that play belongs to the child absolutely and that children ought to be free to play as much as they like. Free, creative, and imaginative play is an essential and entirely natural part of childhood, he argued, and was more therapeutic for troubled youngsters than the Freudian-oriented individual counseling sessions that Neill also made available. Therapeutic, spontaneous, energetic, and useful play could only be undermined if adults tried to channel it toward "learning experiences."

The philosophy and practice of Summerhill explains in part all the early relocations: Affiliated educators and neighbors found the school altogether too radical and even a bit nuts. Neill himself was a commanding figure—a tall, stooped, grandfatherly figure; an opinionated Scotsman; and a severe Calvinist in upbringing and bearing—and he courted controversy.

Neill's seemingly bottomless commitment to children, his steadfastness and emotional generosity, his eccentric interactions with kids, and his willingness to take the side of the child even, or especially, when doing so seemed more than a little loony became the stuff of legend: A boy was charged at the General Meeting (the main organ of governance, at which all residents had the right to speak and vote) with destroying books in the library, and Neill proposed that he be appointed chief librarian; a girl was thought to be stealing money, and Neill gave her a few coins after each offense; Neill happened on a couple of lads breaking windows with rocks and quickly joined in the mischief. In each of these emblematic or apocalyptic stories, according to Neill, the misbehavior disappeared almost instantly, providing further proof, if any were needed, that

children flourished when they were accepted and encouraged to live their lives free of fear.

In these oft-told tales, Neill can be rather easily discounted, for there's an innocence here—his apparent credulousness about simple psychological explanations and his faith in the beneficence of humanity in a state of nature—as well as a sense of mild hectoring, as if he's hiding some of the evidence, marshaling his arguments for battle. But Neill was awakening to a revolution in thought in the early 20th century, a revolution shaking all the old foundations and laying the groundwork for the modern world: the rejection of superstition in favor of reason, the triumph of science, the positing of an unconscious in every human soul, and the discovery of hidden laws in nature and in society that could be understood and mastered for the good of all. He broke with tradition, then, took the side of the avant-garde and the experimental, and created his daring school in the hope that his efforts might contribute to greater happiness in the world. For Neill, the principles guiding Summerhill were identical to the basic requirements for a healthy life, and they numbered two: (1) love and (2) freedom.

The school was depicted in the British press as the "Do As You Please" school, but over time, it won the respect of many well-known educators, artists, authors, and social scientists, including Bertrand Russell, Henry Miller, and Margaret Mead.

In the 1960s, Neill was approached by Harold Hart, a publisher from the United States, who wanted to publish a compilation of Neill's writings. The result was the book *Summerhill: A Radical Approach to Childhood*, an international sensation that put Neill and Summerhill on the map as leaders in alternative and progressive education. Some, of course, saw Neill as a pandering Pied Piper of sin and depravity, a naive fool or a dirty old man, the Devil incarnate, while others said that he was a prophet and a liberator. Similarly, Summerhill was pegged as either a little Gomorrah or a kind of Eden.

Summerhill, with its message of love, peace, and freedom combined with its sharp critique of authoritarianism of any kind, hierarchy, control, sexual repression, shame, and punishment, hit the American zeitgeist of the 1960s like a divinely guided missile. Of course, Summerhill was no more an idea of the 1960s than were sex, youthful upheaval, or rebellion, but it was for many a brilliant idea newly vitalized in a revolutionary age. It became a required text in the blossoming counterculture, and both inspiration and road map to a generation of teachers and education writers. John Holt, Herbert Kohl, Jonathan Kozol, Paul Goodman, Bob Davis, and George Dennison all reported important encounters with Neill's book.

For Neill, humanism was the starting point, the affirmation of the humanizing potential and the rejection of authoritarianism, cruelty, domination, or hierarchy in the domain of childhood. "The difficult child is the child who is unhappy," Neill writes. "No happy man ever disturbed a meeting, or preached a war, or lynched a Negro" (Neill & Lamb, 1995, p. 7). The link between happiness, confidence, fulfillment, and a more balanced social order was obvious to Neill—there simply was no convincing argument for cruelty, repression, or exploitation in the lives of children. Education for human development was linked to freedom and social justice.

In the United States, Europe, and elsewhere, schools and education are contested spaces today, and, as many critical observers have pointed out, the noisy and wealthy forces setting policy and dominating the conversation just now represent the antithesis of Summerhill: raw competition, sorting students into winners and losers based on the flimsiest evidence, reducing development to a thin and anemic measure, bullying teachers and denying them any collective voice in educational matters or any role beyond clerking and monitoring, and privatizing the public space. Neill is battered, but he is far from dead.

Summerhill is still run as a democratic community with the business of the school conducted in school meetings, which serve as both the legislative and judicial body. Anyone, staff or pupil, may attend meetings, and everyone, from the youngest child to the head of school, has an equal vote. Members of the community are expected to make the decisions that affect their lives—a radical notion of participatory democracy in practice—and are free to do as they please, as long as their actions do not cause harm to others. This extends to the freedom for pupils to choose which lessons, if any, to attend. All of this is the embodiment of Neill's guiding principle: freedom, not license.

William C. Ayers

See also *Century of the Child, The*: Ellen Key; Little Commonwealth: Homer Lane; Progressive Education and Its Critics; Psychoanalytically Oriented Theories of Child Development; Rousseau, Jean-Jacques

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Neoliberalism

Neoliberalism refers to a political–economic paradigm based on an ideology that calls for the state implementation, facilitation, and enforcement of free-market economic systems and logic across national and global settings, and effectively across all forms of human organization and decision making. Initially rising to prominence in the 1980s in the United Kingdom and the United States following the elections of Margaret Thatcher and Ronald Reagan, respectively, neoliberal discourses and policies have significantly shaped the 21st-century world order. Although neoliberalism has taken on a number of provincial characteristics and morphed into several strands (e.g., British Third Way, German ordoliberalism), they all share a number of key ideological and policy positions. This entry identifies the key theoretical influences, premises, and policy prescriptions and briefly reviews the global effects and criticisms of neoliberalism.

Origins and Basic Premises

The coinage of the term *neoliberalism* as it is understood in its contemporary usage is credited to the Swiss economist Hans Honegger, who introduced it in his 1925 book *Trends of Economic Ideas* and identified it with doctrines that propagated entrepreneurship and competition and a rejection of socialism (Mirowski & Plehwe, 2009). Over the decades that followed, prominent intellectuals from the Austrian, Freiburg, and Chicago schools of economics, among other Western epistemic communities, have added to the neoliberal framework.

However, the most systematic theorization of neoliberalism comes from the Mont Pelerin Society (MPS), whose members have included influential economists like Milton Friedman, Friedrich von Hayek, Gary Becker, and James Buchanan. Following World War II, the MPS formed in 1947 to combat the spread of both socialist and Keynesian ideas, arguing that any form of extensive government central planning, whether Keynesian capitalist or Marxist-Leninist, however benevolent and well intentioned, creates high inflation, stagnating economies, and unproductive workforces and results in the loss of individual freedom and entrepreneurial incentives. Drawing on what are arguably 19th-century social Darwinist conceptions of natural and self-regulating markets, negative liberty, and instrumental rationality, members of the MPS argued that individuals and countries are instead best served by free-market systems. According to the MPS, human beings are inherently and predominantly rational, self-interested, and competitive agents. These natural properties are in turn most effectively channeled through free-market economic structures, as they allow for cognitively unhindered consumers to engage in perpetual cost–benefit analyses and freely choose between market allocated options and practices that are in accordance with their perceived self-interests. Theoretically, this will generate positive societal outcomes that meet all human needs, as natural market mechanisms, undistorted by excessive government intervention, will ensure outcomes that are beneficial to all of society. Conversely, market mechanisms will ensure punishment for businesses that commit fraud, deliver poor service, practice discriminatory hiring policies, or produce hazardous and dangerous products.

> The freedom of the consumer in choosing what he shall buy, the freedom of the producer in choosing what he shall make, and the freedom of the worker in choosing his occupation and his place of employment, are essential not merely for the sake of freedom itself, but for efficiency in production. Such a system of freedom is essential if we are to maximize output in terms of individual satisfactions. Departure from these individual liberties leads to the production not only of fewer goods and services but of the wrong goods and services. We cannot enrich ourselves merely by consenting to be slaves. (MPS Draft Statement of Aims 1947, in Mirowski & Plehwe, 2009, p. 23)

Policy Implications and Rationale

The MPS, and neoliberals more generally, are not, however, laissez-faire advocates calling for a total elimination of the state. Far from a hands-off approach, they argue that a sound and prosperous

economy and free society necessitates state intervention to shore up markets in times of economic crisis, enforce contracts and property rights, fund minimal social services, and control inflation (Friedman, 1948; Gill, 1998).

At the macroeconomic level, neoliberals advocate for macroeconomic monetary policies aimed at controlling inflation coupled with policies that lower marginal income and corporate taxes; neoliberals argue that governments and central banks can help increase and stabilize the real value (as opposed to nominal value) of financial assets. Doing so puts more money into the hands of individual investors and entrepreneurs and incentivizes them to make investments, which in turn will lead to the creation of jobs and more efficient economic growth than can be achieved by means of government fiscal stimulus policies. Correspondingly, the economist Arthur Laffer argues that high tax rates lead to decreasing government revenues as they cause the wealthy to invest less and to work fewer hours and hence be taxed less. Therefore, decreasing the tax rate on the wealthy encourages them to work more hours and make investments that lead to the creation of more jobs, which will have the ancillary effect of increasing government revenues (Steger & Roy, 2010). At the international level, neoliberals argue that countries should eliminate trade barriers such as excessive taxes and regulations, curb their budget deficits, and focus on exports and the enforcement of property rights. In doing so, countries can gain from their economic comparative advantages in production and labor, maintain market credibility and fiscal solvency, and thereby attract foreign direct investment, which will induce and accelerate economic growth and development.

Furthermore, contrary to popular perceptions, neoliberals recognize the need for fiscal policies to fund social safety nets and public institutions (Hayek, 1994). However, they argue that the scope of the welfare state should be reduced and that public institutions like schools should be organized around business models and primarily concerned with preparing individuals to compete effectively in the global labor markets (Friedman, 2002). In the education context, for example, neoliberals favor parental choice, voucher programs, and high-stakes testing as a means to improve public education. According to the rationale, if schools are granted funds based on how many students they can attract, and if parents are allowed to send their children to schools based on how well they perform on standardized tests (whose supposed objective measurements are meant to mimic the price mechanisms of the market and, thus, provide parents with the necessary information to make a sound and rational choice of which schools best serve their children's needs), then the ensuing competition will generate high-quality schools and weed out underperforming ones.

Overall, neoliberal policy prescriptions seek to incentivize national and international investment, facilitate entrepreneurship and competition, and preserve individual freedom by limiting the state's ability to intervene in how individuals choose to utilize their capital, while allowing for some state intervention. Although these policy prescriptions may not generate an ideal free-market system, neoliberals argue that they can best approximate the meeting of the long-term objectives of political freedom, economic efficiency, and equality of economic power (Friedman, 1948; Steger & Roy, 2010). In sum, neoliberal policies encompass intertwined and mutually reinforcing domestic and international objectives, which can be characterized as follows:

- The liberalization/deregulation of domestic and international trade and commerce (e.g., finance, labor, production, commodity, transportation, and education markets) and uniform import/export tariffs between nation-states for all parties involved to gain from their respective comparative advantages
- The privatization of natural resources as the private sector is better suited to take care of the management of natural resources than are governments or the commons
- The privatization of state enterprises including education, health services, security, and municipal services (in such cases where state enterprises and services cannot be privatized or completely dismantled, they should be transformed into market apparatuses—via the implementation of neo-managerial policies and accountability metrics and targets to measure outcomes, eliminate wastefulness, and incentivize positive performances)
- The elimination or reduction of government welfare institutions (in such cases where welfare institutions cannot be completely dismantled, they should be turned into market apparatuses—via the implementation of accountability metrics and targets to measure outcomes, eliminate wastefulness, and incentivize positive

performances—that help train welfare-dependent individuals to be self-reliant and entrepreneurial workers who can better compete in the labor market)
- The elimination or reduction of income tax, corporate tax, capital gains, and property taxes
- The governmental curbing of budget deficits, control of inflation, protection and enforcement of contracts and property rights, and intervention in opening up new markets
- The removal of macroeconomic policy decisions from formal democratic institutions

Globalization and Neoliberal Governance

The second half of the 20th century was characterized by a series of global crises and transformations that brought about the end of Keynesianism and the ascendency and global implementation of neoliberal policies (Gill, 1998). By the 1980s, the Thatcher and Reagan administrations followed the neoliberal policy package: They cut taxes on businesses and income, shrank the power and size of regulatory state agencies, and loosened or lifted financial, safety, labor, antitrust, and environmental regulations. These policies, in conjunction with the global trade policies and multilateral agreements spearheaded by the World Bank, International Monetary Fund, and World Trade Organization, helped initiate and accelerate the processes of economic globalization, which are characterized by the free flow of capital within and across nation-states, the increasing interconnectedness and interdependence of national economies, and the rise and dominance of transnational corporations and financial institutions (Gill, 1998). After the collapse of the Soviet Union in 1991, and throughout the 1990s and 2000s, neoliberal "globalization" was legally cemented by a series of multilateral international free-trade agreements, which, to various degrees, incorporated the majority of the world's economies to produce a global market society (Steger & Roy, 2010).

The 2008 global financial crisis gave rise to widespread questioning of the neoliberal discourse that unregulated market forces would bring about global peace and prosperity. The next section suggests that the grounds for a more lingering disquiet have not been resolved. However, while national governments responded differently to the crisis, the majority of them held on to their position that neoliberal policies would solve the looming global problems of unemployment, sovereign debt, climate change, and poverty (Braedley & Luxton, 2010). The Obama administration, for example, followed the advice of Milton Friedman and carried out stages of quantitative easing to stabilize major banks and financial markets, implemented fiscal austerity measures that cut funding for social services, and enacted education policies like the 2009 Race to the Top Initiative that further inflected public schools with the market principles of accountability, competition, and consumer choice.

Criticisms of Neoliberalism

While advocates maintain that given enough time neoliberal policies will usher in global prosperity and democracy, critics argue that the neoliberal era has seen an increase in global financial crises and social inequalities and unrest. For example, Chomsky (2011) argues that the widespread riots, volatile financial markets, and political instability that—following the 2008 financial crisis—unfolded in Greece, Spain, and Italy, and the drastic cuts in public spending implemented by Canadian, U.K., and U.S. governments, closely echoed events characteristic of the 1980s and 1990s' neoliberalization of the developing world. During this period, from Mexico to Russia, to Argentina and Thailand, entire national economies crashed one after another under the weight of unsustainable financial speculation and lapsed capital controls (e.g., the 1994 Tequila Crisis or the 1997 Asian Financial Crisis), which were encouraged and facilitated by pro-neoliberal institutions like the World Bank, the International Monetary Fund, and the World Trade Organization. Critics maintain that these and other pro-neoliberal institutions forced liberalization and deregulation onto the developing world, which was accompanied by drastic austerity measures and increases in the privatization of public resources, poverty, and unemployment (Steger & Roy, 2010). As Harvey (2005) argues,

> For those left or cast outside the market system, a vast reservoir of apparently disposable people bereft of social protections and supportive social structures, there is little to be expected from neoliberalization except poverty, hunger, disease, and despair. Their only hope is somehow to scramble aboard the market system either as petty commodity producers, as informal vendors (of things or labor power), as petty predators to beg, steal, or violently secure some crumbs from the rich man's table, or as participants

> in the vast illegal trade or trafficking in drugs, guns, women, or anything else illegal for which there is a demand. (p. 185)

These criticisms notwithstanding, it is very likely that neoliberal ideas will continue to have a significant influence on the policy perspectives of most of the 21st-century governments.

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See also Accountability and Standards-Based Reform; High-Stakes Testing; Liberalism; Social Darwinism

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Neurosciences and Learning

Educational neuroscience emerged as an interdisciplinary field during the so-called decade of the brain (1990–1999) and has attracted enormous attention in the scientific community as well as among a broader public, including teachers and policymakers, ever since. The connection between neuroscience, psychology, and education is expected to broaden the perspective on human learning and teaching as well as on cognitive and emotional development in general. The field has been stimulated by the improvement of brain imaging techniques, which allow recording electrical activities as well as metabolic processes such as oxygen and glucose consumption going on in the brain while humans are engaged in behavior or exposed to information. As the brain is undoubtedly the most important body part for learning and education, it is no wonder that progress in understanding the structure and the functioning of this organ also affected the way of seeing schooling and other forms of institutional learning. The number of books, journals, academic societies, and study programs focusing on the intersection of brain research and educational science has exploded ever since.

From the very beginning of its emergence, the field was perceived with mixed feelings, particularly among educational scientists. On the one hand, getting information about human functioning beyond testing or observation of behavior by recording brain characteristics was highly appreciated, particularly for explaining learning difficulties such as dyslexia and dyscalculia. On the other hand, educational and behavioral scientists were concerned about the uncritical enthusiasm and the unrealistic expectations among many teachers and policymakers when presented with slogans like "brain-based learning." At least partly motivated by the principle "If you can't beat them, join them," since 2000, many learning researchers with a background in psychology or empirical educational research launched various initiatives that were supposed to develop promising but realistic frameworks for combining neuroscience and educational research.

Well-established academic societies in the field of schooling and education, such as the American Educational Research Association and the European Association of Research on Learning and Instruction, have established special-interest groups with a focus on educational neuroscience. All over the world, private and public science foundations have initiated and launched both permanent centers and temporary research programs on the intersection of learning research and learning, and several universities are offering study programs on this issue. Moreover, a fast-growing international academic society named IMBES (International Mind, Brain and Education Society) was founded and has been editing a journal since 2006. This society seeks to support cooperation between scientists of different disciplines (mainly biology, educational science, and psychology) and to stimulate the dialogue between

educational practice and science. As a consequence, school teachers are encouraged to join the society as well as attend its biennial meetings.

The Bidirectional View on Neuroscience and Behavioral Research

In their mission statements, the aforementioned societies emphasize that there is no one-way path either from neuroscience to psychological and educational research or from science to educational practice. This is an important point, because it implies a riposte to misguided and simplistic beliefs about what facilitates or impedes learning. Examples of such widespread naive beliefs, also labeled as neuromyths, include the following: Music or brain jogging make us smarter because they promote synaptogenesis, or the formation of synapses between neurons; younger people learn better than older ones because of their greater brain plasticity; and people learn better when they are in a positive mood because it stimulates the amygdala. Considering such statements as being scientifically well-founded goes along with the assumption that neuroscience as the "harder science" can deliver better explanations than psychological or education theories can. Moreover, this assumption implies that progress in understanding brain functioning will inevitably lead to a better understanding of learning and educational practice. Such naive views, however, can easily be reduced to absurdity, as a pertinent example from a different field illustrates. Consider an expert committee of engineers in charge of investigating an air crash coming up with the explanation that the plane came down because of the Earth's gravity. Although this is correct from the perspective of physics, it does not at all explain what technical system had broken down in the particular airplane, and what has to be done to avoid future air crashes—there is not one solitary causal factor at work but rather a set of interacting factors are involved.

Learning and education have to be understood as the interaction between an individual (including his or her brain) and the environment. A better understanding of the chemical processes taking place in synaptogenesis will not at all contribute to a better understanding of the difficulties students have with algebra, and, of course, it will not inform teachers about appropriate classroom practice. The scientific concepts and constructs used for understanding the chemical and biological basis of brain functioning are different from the concepts and constructs used in psychology and educational science to explain cognition and learning. Simply recording a person's brain activities does not tell us anything about what she is thinking or learning. On the other hand, observing that a person has reached a particular learning goal after several trials allows us to conclude that synaptogenesis must have taken place, but nothing beyond. Understanding the brain and understanding cognitive and behavioral functioning and education are distinct research goals that need not only different concepts and constructs but also different methods and standards for evidence. The goal of educational neuroscience is not to break off well-established disciplines but rather to provide a forum for addressing interesting and important research questions that go beyond the boundaries of a single discipline. Better understanding under what conditions learning and instruction at school live up to the expectations held in these institutions is a complex goal that requires the concentrated efforts of different disciplines.

Psychology has a long tradition of making quite vague concepts of mental states and mindsets measurable by tests and questionnaires and thereby opening them to scientific investigation—intelligence, reasoning, working memory, executive control, or anxiety are examples. Similarly, neuroscience can not only contribute new methods of brain imaging but also lead to insights into the functioning and the architecture of the brain, including developmental changes across the life span. In this way, neuroscience can contribute to the question of whether particular brain characteristics facilitate or impede learning during a particular period of life. On the other hand, the focus of educational research is on the features of learning environments, including methods of instruction, teacher characteristics, ways of designing and presenting learning material, and many more. In this research tradition, educational scientists have developed valid and usable categories for classifying aspects of learning environments that help systematize the complexity of schooling and thereby make it appropriate for scientific inquiry.

Added Values of Combining Neuroscience and Behavioral Research

Evolution has equipped all animals—from insects to humans—with a mechanism of adaptation to their environments, namely, brains that are prepared for learning. At the same time, learning leaves changes in the brain that result from neural activity and communication between neurons. Decades

before brain imaging techniques became matter of course, Donald Hebb formulated the core principle of learning on a neural basis: "Neurons that fire together wire together." Based on this principle, mainly in animal research, neuroscience has uncovered chemical and physical processes taking place in the brain during learning. For instance, the pivotal role of the neurotransmitter dopamine for learning by reward and punishment has been elucidated. This line of research made use of the psychological paradigms of classical and operant conditioning, and it has enriched the explanatory power of the learning theories. Among other factors, dopamine release can determine the speed with which new stimulus–response connections are acquired. Learning by operant and classical conditioning, however, is not the primary goal of institutional learning and education. Rather, the focus of schooling is on the acquisition of symbolic skills in literacy and mathematics, as well as the acquisition of meaningful conceptual understanding in the complex content areas that have been developed. This enormous capacity for learning is unique to human beings.

Understanding the differences between human brains and those of other living beings is still in its infancy. It is, however, known for certain that the area in the human brain labeled as the "prefrontal cortex" is crucial for meaningful cognitive activities and higher-order learning. Malfunctions in this brain area caused by injuries, strokes, or other kinds of brain diseases severely impede the functioning of working memory and executive control, which otherwise enable goal-directed behavior. This happens by storing and processing the relevant knowledge and by simultaneously suppressing irrelevant information. The prefrontal cortex undergoes dramatic changes during childhood and adolescence, and these changes are closely correlated with achievement on tasks of cognitive control and working memory, indicating that brain development determines whether an individual is able to make use of the learning opportunities provided by the environment or not. Identifying neural underpinnings of behavioral and cognitive changes in childhood and adolescence can help prevent parents and teachers from making unrealistic demands. Moreover, when it comes to the identification of children or adolescents at risk, the combination of brain indicators and behavioral data can provide a better basis for decisions on means of prevention than each single predictor can do.

The combination of behavioral research and neuroscience has particularly proven its worth when it comes to the explanation and the identification of developmental and learning disorders. Until the 1970s, it was widely believed that many kinds of psychological disorders—from schizophrenia to autism to dyslexia and dyscalculia—were caused solely by unfavorable family or societal conditions. Thanks to the bidirectional view of educational neuroscience, such oversimple beliefs are things of the past. It is now understood that people can differ in their brain structures from the very beginnings of their lives, and these differences determine the degree to which they can profit from instruction. This is particularly the case for learning to read and to write, as well as for learning arithmetic. Several brain areas involved in the acquisition of these competencies have been identified, and differences between impaired and regularly functioning children have become obvious.

Final Conclusions

Using findings and techniques from neuroscience for researching school-related learning can clarify whether particular pedagogical interventions do not live up to the expectations teachers had placed in them because of students' brain dysfunctions. Apart from that, neuroscience has not at all overturned theories and beliefs about effective instruction and classroom practice that had already been developed on the basis of traditional behavioral research. If anything, findings from behavioral studies were confirmed by results from brain imaging. Hence, there is no reason to consider neuroscience as part of teachers' professional knowledge and to make it part of the compulsory curriculum of teacher education programs. Teachers are in charge of enriching and refining student's knowledge in the respective content areas. Pedagogical content knowledge is the core of teacher expertise, and being aware of the current state of the art in neuroscience does not make them better teachers.

Elsbeth Stern, Ralph Schumacher, and Roland Grabner

See also Cognitive Revolution and Information Processing Perspectives; Learning, Theories of; Pedagogical Content Knowledge: Lee Shulman

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Website

International Mind, Brain and Education Society: http://www.imbes.org

Newman, John Henry (Cardinal)

Taking its cue from Plato, Cicero, and St. Augustine, the medieval university asserted the primacy of a liberal education in the formation of the educated person. Little was added to this view until it was engaged by John Henry Newman (1801–1890) in the mid-19th century when liberal education and the classical ideals it represented came under severe criticism. This criticism was rooted in large part in the Industrial Revolution and the belief that studying the classics provided little preparation for social and economic progress in the new age of science and technology. Newman's *Idea of a University*, first published in 1852 and one of the most celebrated books ever written on university education, stemmed the flood of criticism.

There are three reasons why Newman supported liberal education. First, it gave one a comprehensive knowledge that is valuable for understanding the world we live in. Second, it provided what Newman labeled a philosophical habit of mind—the capacity to engage in critical or reflective thinking on ideas and values. And third, it inculcated gentlemanly dispositions of social interaction. Newman explained how all of this is possible by drawing on a theory of knowledge, a theory of mind, and a theory of personal influence regarding the teacher.

According to Newman, all knowledge is integrated. Like Plato before him, and Paul Hirst and R. S. Peters coming after, Newman's theory of education is heavily influenced by his theory of knowledge. Here knowledge, which he refers to as the circle of the sciences—meaning the sciences or academic disciplines taken together—constitutes an integrated whole. This has important educational consequences: If human knowledge is unified, if all its parts are interrelated, to understand one part properly one needs to understand all others. For Newman, knowledge understood in this way had three major components: science, literature, and theology or, as we would likely view it today, the arts and sciences plus theology. But why theology?

Newman was a deeply religious person who in midlife converted from Anglicanism to Catholicism (he was beatified by Pope Benedict XVI in 2010). For him, theology had an essential contribution to make: It explains the relationship between human beings and God. Every bit as much as literature or science, it is an essential branch of knowledge or component in the circle of the sciences. If an individual does not study theology, he or she will not understand the rest of human knowledge; if a university does not teach it, it misrepresents the whole of knowledge and its explanation of the world is deficient. One of the reasons Newman spoke out strongly against the new University of London was because it excluded theology from its range of subjects.

Central to Newman's theory of mind is his view that while humans have a natural capacity to think, in order to think properly, they need to be trained. Thinking or reasoning well means arguing in support of opinions and analyzing and critiquing the opinions of others. It is through the development of such skills in conjunction with broad knowledge that one

becomes a reflective, thoughtful person and develops the philosophical habit of mind. And the best preparation, in Newman's view, for developing the skills of reasoning is by studying the classics: Latin and Greek.

All of these ideas are consistent with the historical theory of a liberal education. This is less true of the attention Newman pays to the role of the teacher. This can be seen in *University Sketches* (1961) and in the emphasis placed on personal influence in *Oxford University Sermons* (1887), which Newman delivered several years earlier. Unlike John Dewey (1963), Newman did not use the term *concomitant learnings*, meaning those largely unintended learnings that take place in the classroom. He did employ much the same concept in speaking of the teacher, however, as he conveys that great teachers enlighten the mind and transform the subject matter; they infuse learning with vitality and charm through the power of personal influence: "Such is the spell which the living man exerts on his fellows" (Newman, 1961, p. 39), Newman wrote, that just to gaze on Plato would be an education. The teacher, or the tutor at Oxford University on which Newman draws, and the college with which the tutor was connected had a special role in developing the thinking skills. Related to this, the college had educational roles beyond the academic, leading Newman to elaborate a theory of university education extending beyond liberal education often overlooked in treatments of Newman's educational thought.

In addition to its academic role, in the college Newman saw a place for moral and religious formation. It was, in short, a home away from home (Newman, 1961, p. 182), where one could achieve intellectual discipline with assistance from the tutor, while also receiving guidance and support in personal matters, and, through the services provided by the chaplain in the college, having access to moral and religious education. Clearly, then, Newman located his theory of a liberal education within a concept of education that included moral, religious, and emotional formation. This is important to note because it shows that Newman expanded his educational ideal in a manner akin to contemporary writers such as Jane Roland Martin (1994). Even though Newman overlooked the education of women, he did express a feminist sentiment.

A much less explored area in Newman poses a special challenge to the theory of a liberal education (Mulcahy, 1973, 2008). Odd as it may seem, Newman laid the basis for strongly challenging or departing from the idea of a liberal education, not least his own theory. Unlike criticisms of liberal education rooted in economic and other such considerations, if carefully considered and acted on, this criticism may ultimately serve to create and sustain a more vibrant theory of liberal education incorporating practical knowledge and education for action for which some have already begun to argue (Freire, 1971; Martin, 1994; Mulcahy, 2008; White, 2004).

It was in connection with his appointment as the rector of the newly established Catholic University of Ireland in Dublin that Newman wrote *Idea of a University* (1947b). Following his departure from Ireland, Newman returned to writing mostly on religious and related philosophical matters, as in *Grammar of Assent* (1947a). His retreat from the ideal of a liberal education can be viewed in relation to three matters discussed there: (1) notional apprehension, (2) real apprehension, and (3) reasoning in concrete affairs. Notional apprehension consists of notions or concepts, all of which are abstractions. A liberal education and the academic disciplines on which it rests also consist of generalizations or abstractions. Consisting as it does of generalizations, however, and introducing a critique of theoretical knowledge that has received almost no attention, Newman here maintained that scientific or theoretical knowledge may fall short of enabling us to grasp the truth in particular circumstances. He takes this implicit critique of liberal education, which draws primarily on theoretical knowledge, a step further when he talks of real apprehension as somehow more powerful and impressive than notional apprehension, in the way that having a toothache may be more informative and impressive than a scientific account of it. It may be more reliable as regards particulars and more compelling, and it drives our feelings and emotions and leads us to take action.

In placing Newman's concept of real apprehension alongside his concept of notional apprehension and his notion of reasoning in concrete affairs, it is difficult not to conclude that real apprehension is at least as valuable as notional apprehension or theoretical knowledge. It surely raises the question as to why Newman in his educational writings considered liberal education that relies so heavily on theoretical knowledge more highly than experiential or practical education, grounded as it is in concrete experience and real apprehension.

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See also Mill, John Stuart; Paideia; Plato; Spencer, Herbert; Transfer of Learning

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Nietzsche, Friedrich

Friedrich Nietzsche (1844–1900) declared himself to be "not a man but dynamite." It is true that he is best known for dramatic doctrines: the "death of God," the will to power, the "superman" (*Übermensch*), and the notion of eternal return. Yet his status as one of the major Western thinkers rests on other contributions as well: an epistemology according to which "there are no facts, only interpretations"; an ontology that reverses Platonism by identifying reality with becoming rather than timeless being; and a "revaluation of values" that replaces traditional morality with new and contrasted values. In this entry, the relevance of Nietzsche's ideas to education is explored with emphasis on a theme that runs through his thinking: the relation between *knowledge* and *life*.

Nietzsche was born in Röcken, near Leipzig, a descendent of Lutheran pastors on both sides. A precocious and gifted scholar, he was appointed as professor of classical philology at the University of Basel at only 24 years of age. Early success was soon followed by a change of direction. His first book, *The Birth of Tragedy* (1967a), departed from scholarly norms with a speculative model of contrasted "Apollonian" and "Dionysian" drives underlying Greek art. Influenced by a friendship with the composer Richard Wagner, Nietzsche began a new career as a public intellectual, urging cultural and educational reform in Germany. Chronic ill health led to his departure from Basel in 1879, followed by years of continual travel between Germany, Switzerland, and the Mediterranean coast. Turning wholly to philosophy, Nietzsche produced a steady output of books, read by few at the time but now regarded as landmarks in modern thought. Early in 1889, he suffered a catastrophic mental breakdown and spent his remaining years as an invalid. By the time he died, Nietzsche's reputation had spread widely, although the academic world came to take him seriously only well into the 20th century.

The State of Education

Nietzsche's extended writings on educational issues belong to his Basel period. A dominant theme is his dissatisfaction with his own discipline, classical philology. The key texts are a public lecture series, *On the Future of Our Educational Institutions*, and the essay "Schopenhauer as Educator," third in a series with the general title *Untimely Meditations*. (A planned sequel titled *We Philologists* was never finished.)

The second of the *Untimely Meditations* is a useful starting point. Its theme is the study of history, but it begins with broader reflections on memory and forgetting. To be human is to have a relation to the past, yet action in the world requires us to turn away from what has been. The question of how we can live with this tension is explored by Nietzsche with considerable subtlety. He distinguishes three kinds of history and shows how each can contribute to a fuller, more flourishing life, and yet can also damage life. "Monumental" history provides models of greatness that can inspire us today, but it misleads if it suggests that these may occur in different conditions. "Antiquarian" history protects and preserves the past, giving us the security of belonging to a place and people, but a heritage can also be a substitute for new creation. Finally, "critical" history serves life by judging and condemning whatever has been, clearing the way for the new, and yet it commits injustice in doing this indiscriminately—and is dangerous for life, since we are, after all, the outcome of this past.

This assessment of historical knowledge has evident implications for a schooling focused on past cultures and languages. In writings of the 1870s, Nietzsche subjects the classical curriculum of the German *Gymnasium* to sharp criticism. The schools, he charges, are neglecting the true aims of education, while other influences are trying to use public education for their own ends. The state needs bureaucrats and soldiers, the business sector wants entrepreneurs, and "good society" demands acceptable appearances. More personal in tone is Nietzsche's condemnation of current academic pedagogy. Instead of upholding the school's true purpose, classical philology has become a self-absorbed, abstracted "science" that fails to address the primary task set for education by the ancient Greeks: the development of individual character. The complaint is hardly new (Seneca had said much the same about Roman education), but coming from a conspicuously successful product of the system, it carries conviction.

The "Free Spirit" and Beyond

Education is less often an explicit topic in Nietzsche's later writing. Still, the problem of knowledge and life remains a preoccupation. At times, he sounds like an educational conservative, especially in discussing teaching. He wants to allow the educator a free hand in choosing a pedagogical strategy to suit each student, insists on discipline and hard work in learners, and even asserts that the good scholar is not much different from the good soldier. Yet these demands are means toward an end that is not at all conservative: the formation of what Nietzsche terms the "sovereign individual." The aim is autonomy, implying making one's own laws or, as he would say, inventing one's own values. The education that he recommends provides the preconditions for this achievement: The crucial next step is up to the individual.

In his most popular work, *Thus Spoke Zarathustra*, Nietzsche illustrates his intention with a parable. He describes three "metamorphoses of the spirit." First it becomes a camel, willing to obey commands and to bear heavy burdens patiently. In the desert, however, the spirit rebels against authority and turns into a lion, who says "No" to every "Thou shalt" and replaces it with "I will."

The second of these stages is explored in the work of Nietzsche's middle period, starting with *Human, All Too Human*, through his concept of the "free spirit." On occasions, he seems to deny the value of teachers and schools altogether, declaring that "as a thinker, one should speak only of self-education" (Nietzsche, 1878/1986, p. 374). But this is not the whole story. The free spirit has no further need for a master, but it may still learn from others—that is, from friends and comrades, on a basis of equality and shared purpose. Nietzsche's own life is a striking testimony to his belief in the importance of friendship for the thinker. His loyalty to Richard Wagner, his philosophical partnership with the Darwinian positivist Paul Rée, and his brief relationship with Freud's future associate Lou Andreas-Salomé, all present a similar pattern of high hopes, followed by disappointment and disillusion. Yet he continued to learn even from these painful experiences and to find new directions.

Beyond this struggle for freedom is the third "metamorphosis of the spirit": a transformation into a newborn child, who represents a fresh beginning, unburdened by what has been. Playful and innocent, the child is "beyond good and evil," and so is capable of finding new values. Yet the image remains a promise rather than a reality, the vision of an ideal that is more readily seen than grasped in our present situation. For Nietzsche, this last transition remains an unsolved problem.

The fictional protagonist of *Thus Spoke Zarathustra* is such a conflicted "free spirit." Written in a quasi-Biblical style, this collection of discourses also has an overall narrative direction. Zarathustra assumes his calling as teacher and prophet of a higher form of life only gradually and reluctantly. His progressive self-education meets with frustrations, crises, and setbacks, and yet he manages to "stumble upward," even if the work's overall ending is open to several readings.

The Late Writings

In the final phase of his writing, Nietzsche (1954) returns to the aims of education, now pared down to essentials, and lists "the three tasks for which educators are required. One must learn to *see*, one must learn to *think*, one must learn to s*peak* and *write*" (p. 511). None of these simple phrases, however, means quite what one might suppose. As he goes on to explain, "Learning to see" means a kind of self-reserve, an ability to postpone any response to the demands of one's environment. "Learning to think" involves not compliance with rules of logic but a playful ability to "dance with concepts." Nietzsche does not spell out what he means by "learning to write," but his own work serves as an exemplar. Its

hallmarks are close attention to the match between content and style, and access to a range of modes of communication, from the grand scale to the aphoristic genre, designed not to deliver its full meaning immediately but to require the contribution of the reader's own thinking.

In these writings, especially the notes and working drafts that editors brought out as a posthumous book titled *The Will To Power* (1968), Nietzsche's hopes for cultural and educational reform are replaced by a diagnosis of European culture as facing the onset of nihilism, a loss of meaning and value brought about by the collapse of the beliefs that have guided the West for 2,000 years. Modern society's abandonment of religious faith is only the start. Those who think that they can manage their lives with a secularized morality are told to reconsider. It is to them, not to Christian believers, that the message of the "death of God" is addressed. Its point is that along with belief in God and a future life, objective standards of good and evil, and even of truth and falsity, have been fatally undermined by the same will to truth that gave rise to modern science, but now it "draws its ultimate consequences."

This is Nietzsche's claim to be "dynamite." In prophetic moods, he predicts a coming century in which civilization will confront its dark side in an age of war and social chaos. What can education achieve in the face of this predicament? At most, it can prepare the way for what might come after: a discovery of new meaning in life and value in the world. Only the individual can do this, and only a philosophical education will make it possible. In his works, Nietzsche emerges as this kind of educator. Few thinkers have communicated more directly with their readers, and it is not surprising that many think of him as a mentor or even a friend. His continual exploration of differing perspectives is a kind of objectivity—the only possible kind, as he thinks. He invites us to share in his task of continual "self-overcoming," or at least to find parallels in our own lives. Finally, he leaves us with a cryptic directive for the goal of this ultimate form of education: We must "become what we are."

Robin Small

See also Autonomy

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Noddings, Nel

With an educational career spanning more than six decades, Nel Noddings (1929–) has achieved prominence as a leading feminine ethicist and philosopher of education. As the author and editor of 19 books

and more than 200 articles, Noddings has made contributions to the academic areas of ethics, philosophy of education, educational policy, mathematics education, religious education, social policy, and peace education. Her work has been translated into 11 different languages. Noddings has been honored as a model teacher, and for her scholarship, she has received six honorary doctorates and was elected President of the National Academy of Education and of the Philosophy of Education Society in the United States. Her educational experience includes middle and high school teaching, school administration, university teaching, and academic administration. As the mother of 10 children, her work integrates her personal experience of parenting with her professional work as a teacher and educational administrator; this integration of the professional and the personal has yielded distinctive, alternative perspectives on ethical relationships, the aims of education, and the role of caring in educational and social policy.

This entry focuses on her seminal and heavily cited book *Caring: A Feminine Approach to Ethics and Moral Education* (first published in 1984). (It needs to be noted at the outset that the term *feminine* that appears in the title of this work does not imply, for Noddings, that caring as an attribute is restricted to females—although it might be a more common aspect of women's experience.) Noddings develops "an ethic of care" grounded in an ontology of relatedness and spells out what it means to treat people morally. In Noddings's view, it is caring relationships that underlie moral goodness. Unlike most ethical theories, hers is not grounded on rational judgment and moral justification—rather, it emphasizes cultivating a moral sensibility, human responsiveness to others, and an understanding of the unique, context-dependent situations in which we must act. But in seeking to avoid situational relativism, she posits that the need and desire to be cared for is a universal feature of human experience.

Noddings has also written extensively on the implications of her theory of care for moral education and educational policy. This entry discusses her work in this area and concludes with a look at some of the objections that have been raised to her ethical theory and her concept of needs-based public policy.

Caring

Noddings does not view caring primarily as an attribute of a "caring person"—that is, as a moral virtue associated with an independent agent. Rather, she conceives of it as *an attribute of a reciprocal relationship between two people*, the "one-caring," and the one "cared-for." Unless the cared-for recognizes the caring, we do not have a caring relation. Thus, for Noddings (2002a), the logic of a caring relationship has three essential components:

1. A cares for B.
2. A performs some appropriate act in light of this caring.
3. B recognizes that A cares for B. (p. 19)

It is noteworthy, too, that Noddings does not reduce caring to feelings of empathy; the kind of "feeling with" that the one cared-for experiences is called by Noddings "*engrossment*." In this nonjudgmental, open, receptive attention, the one-caring receives the other into herself and becomes "a duality" with the other. "Receptivity" for Noddings is not a mystical notion but a state of consciousness. In this state, the one-caring is fully present to the other, but it does not project herself into the other's shoes and ask, "How would I feel if I were in the other person's situation?" Noddings (1984/2003) describes this receptive attention as having "been invaded by the other" (p. 31). She finds Simone Weil's (1977) description of "receptive attention" compelling: "The soul empties itself of all of its contents in order to receive into itself the being it is looking at" (p. 51). Noddings (1992/2005) continues, "When I care, I really hear, see, or feel what the other tries to convey" (p. 16). This engrossment may last only a few moments, and it may not be repeated, but it must be full and complete.

The other essential ingredient the one-caring must experience is called "motivational displacement." It represents a motivational shift in which the one-caring's "motive energy flows towards the other" (Noddings, 2002b, p. 33). The one-caring allows her motive energy to be shared, to be put at the service of the other. This sharing of her energy may make her more vulnerable but that vulnerability is something she is willing to risk. Noddings (2002b) gives an example of motivational displacement from her own field of teaching—mathematics.

> Consider a typical example. Ms. A, a math teacher, stands beside student B as he struggles to solve an equation. Ms. A can almost feel the pencil in her own hand. She anticipates what B will write, and she

> pushes mentally toward the next step, making marks and erasures mentally. Her moves are directed by his. She may intervene occasionally but only to keep his plan alive; not to substitute her own. She introduces her own plan of attack only if his own plan fails entirely and he asks, "What should I do?" (p. 17)

Noddings indicates that not all encounters are likely to be fully caring encounters. Sometimes the one-caring may be distracted or preoccupied and incapable of giving the cared-for the appropriate receptive attention needed. Sometimes the one-caring may resist the move to motivational displacement by thinking "I don't have time for this," "Why me?," or "I can't handle this" (Noddings, 2002b, p. 18). Moreover, sometimes the cared-for is not capable of acknowledging that the caring has been received. If there is failure on either the part of the one-caring—to give the cared-for the appropriate receptive attention—or on the part of the cared-for—failure to acknowledge that the caring has been received—then a caring encounter will not have been consummated. This essential mutuality in caring leads us to a discussion of Noddings's view of "reciprocity" in caring.

Reciprocity in Caring

In contrast to other scholars writing about caring, such as Milton Mayeroff (1970) and Michael Slote (2000), Noddings requires some level of *reciprocity* in caring encounters and caring relationships. The cared-for must contribute something essential to the encounter for it to be a caring one. In her view, the cared-for responds in a way that shows that A's efforts at caring have been received. This receiving and acknowledgment from the one cared-for may be minimal, as manifested in a baby's smile or an elder person's knowing glance, but it must be present for a caring encounter or relationship to be established. For Noddings, caring relations evolve through a set of caring encounters, but these relations focus on what the effects of the one-caring are on the cared-for, not merely on the intentions of the one-caring. Caring over time, Noddings writes, need not be—in fact, never is—an unbroken series of caring encounters, but it must be marked by a basic constancy. The adult must convey a message to the child: "I am here for you." Of course, Noddings notes that teachers serve, just as parents do, as models of caring, and their message of "I am here for you" indicates a willingness to listen, to help, to defend, and to guide. It remains the foundation for the most vital human relationships. Moreover, it is this reciprocity that Noddings insists makes her model of caring not a virtues ethic but a relational ethic, for she refuses to locate caring merely in the individual moral agent, regardless of how much caring she may display: *Reciprocity is always required.*

Natural Versus Ethical Caring

Noddings suggests that morality is rooted in feelings that are universal in our species. The first of these is what she calls the sentiment of "natural caring." Its paradigm case is a mother's love for her child. The mother's desire to respond to her child's need is not coerced but natural; it emerges naturally because she is concerned about her child's well-being. She *wants* to care; she feels no *obligation* to do so. Noddings (2002a) describes natural caring as follows:

> A sense that "I must" do something arises when others address us. This "I must" is induced in direct encounter, in preparation for response. Sometimes we, as carers, attend and respond because we want to; we love the ones who address us or have sufficient positive regard for them, or the request is so consonant with ordinary life that no inner conflict occurs. In similar fashion, the recipients of such care may respond in a way that shows us that our caring has been received. When this happens, we say that the relation, episode, or encounter is one of natural caring. The "I must" expresses a desire or inclination—not a recognition of duty. (p. 13)

Ethical caring, in contrast, is based on a different sentiment, one occurring in response to recalling the prior sentiment of natural caring. We remember moments in our past when we displayed caring and when we were cared for. In remembering these moments, we experience an "I must" feeling that flows in response to the plight of the other whom we are not instinctively inclined to care for. Noddings (2002a) describes ethical caring as follows:

> At other times, the initial "I must" is met by internal resistance. Simultaneously, we recognize the other's need and we resist; for some reason—the other's unpleasantness, our own fatigue, the magnitude of the need—we do not want to respond as carers. In such instances, we have to draw on *ethical caring;* we have to ask ourselves how we would behave if

> this other were pleasanter or were someone we loved, if we were not tired, if the need were not so great. In doing this, we draw upon an ethical idea—a set of memories of caring and being cared for that we regard as manifestations of our best selves and relations. We summon what we need to maintain the original "I must." (p. 13)

Noddings emphasizes that ethical caring is not superior to natural caring. Neither requires any form of religious or transcendental belief in a supernatural being. Rather, our capacity for natural caring is derived from our having been immersed in relations of care since birth. Moreover, when ethical caring is required, we can invoke an ethical ideal based on our memories of caring and being cared for. Thus, Noddings's (2002a) ethic of care can be viewed as a form of "pragmatic naturalism," one that requires no "gods, or eternal verities, or an essential human nature, or postulated structures of human consciousness" (p. 15).

Caring for Versus Caring About

In *Caring* (1984/2003), Noddings distinguishes "caring for" others in face-to-face relationships from "caring about" others who might be far removed from one's daily circumstances. She describes "caring about" as follows:

> I have brushed aside "caring about," and, I believe, properly so. It is too easy. I can "care about" the starving children of Cambodia, send five dollars to hunger relief, and feel somewhat satisfied. I do not even know if my money went for food, or guns, or a new Cadillac for some politician. This is a poor second cousin to caring. "Caring about" always involves a certain benign neglect. One is attentive just so far. One assents with just so much enthusiasm. One acknowledges. One affirms. One contributes five dollars and goes on to other things. (p. 112)

Later, in response to critics suggesting that she has downplayed the importance of "caring about," Noddings acknowledges that it deserves more attention than she originally gave it; furthermore, it may provide the link between caring and justice. She writes that caring about others may be viewed as "instrumental in establishing the conditions under which caring-for can flourish" (Noddings, 2002b, p. 23). Nevertheless, she continues to have doubts about its role because of its inherent flaws: It can be too easy, it can become self-righteous and politically correct, it can encourage our becoming too dependent on abstractions and schemes that may seem consistent at the theoretical level but not entirely workable in practice, and finally, she thinks, others may easily elevate it above caring for, thus distorting what might be called the natural order of caring.

Caring and Moral Education

It is important to note that Noddings views moral education as the primary aim of education, thus, her educating for caring remains fundamental to this endeavor. Noddings provides a critique of "character education"; she suggests that her own theory of caring shares some characteristics with the intellectual tradition of virtues ethics but differs from it—because, as noted above, *caring must be viewed as a relation* not as a virtue lodged in one's character. Moreover, other differences can be noted. Care theorists, rather than attempting to inculcate virtues directly, focus on establishing those conditions that are likely to bring forth the best in students—that is, those conditions "that will make being good both possible and desirable" (Noddings, 2002a, p. 2). Care theorists also are unlikely to identify several specific virtues absolutely and without regard to context. Moreover, they will be likely to place more emphasis on the social virtues because they view an individual's moral and social development as being dependent on how we are treated by others. "How good I can be depends," according to Noddings (2002a), "in substantial part, on how you treat me" (p. 2). Virtue theorists will use stories favoring heroes and inspirational accounts; in contrast, care theorists favor stories that make ethical decisions problematic and arouse sympathetic reactions in their readers.

Noddings argues that there are four essential components of moral education. These will be discussed in turn.

1. *Modeling:* We present the best possible model of caring when we care unselfconsciously. However, when we do reflect on our caring, we must focus on the relation between ourselves and the cared-for. Has our response been adequate? Could we have expressed ourselves better? Has our action helped or hindered the cared-for? We should reflect both on how competent we are as ones-caring and how we are functioning as role models.

2. *Dialogue:* This is central to caring relations because it always implies the question, "What are

you going through?" Dialogue allows self-disclosure in a safe setting and makes it possible for the one-caring to respond appropriately for the cared-for. In dialogue, we attend nonselectively to the other and allow ourselves to be engrossed in the other. In dialogue, both participants take turns as carers and cared-for, as they remain aware of each other. Dialogue also serves multiple purposes in caring encounters and relations: (a) it provides information about the participants, (b) it supports the relationship, (c) it brings about further thought and reflection, and (d) it develops communicative competence in those involved in the dialogue. Moreover, dialogue invites the participants to deepen their understanding both of themselves and the other.

3. *Practice:* This includes participating in caregiving activities. These can include cooperative activities in school where we work with other students. Practice can also include community service, provided it is offered as an opportunity to practice caring; finally, practice can include other non-school-related activities such as attending to the needs of guests, caring for smaller children, and performing housekeeping chores. Boys, argues Noddings, need more of the kinds of caregiving opportunities that girls regularly get outside of school.

4. *Confirmation:* When we "confirm" others, we try to bring out the best in them. If someone engages in an uncaring or unethical act (based on our own ethical perspective), to confirm the other is to attribute the best possible motive to the other from a realistic standpoint. Attributing the best possible motive requires that we understand the situations we confront and the people we are interacting with.

For Noddings (2002a), if we seek to help others develop morally, we must engage in an ethic of care. To do so requires that we seek to establish and maintain caring relations, meeting the needs of others and responding to them appropriately (p. 20).

Caring and Educational Reform

In offering a radical critique of the aims, methods, and curriculum of traditional schools, Noddings provides us with an alternative vision of school reform. At the heart of this vision the central aim of education remains the production of competent, caring, loving, and lovable people. Noddings invites us to reflect on the following thought experiment: What might schooling be like if we considered what we would want as wise parents of a large, heterogeneous family? In answering this question, Noddings thoroughly rejects any approach to the content, methods, or aims of education based on either of these two ideas: (a) uniformity of content in the curriculum or methods of instruction and (b) denying students meaningful choices that reflect their expressed needs, interests, and forms of intelligence. For Noddings, the traditional view of liberal education represents a false ideal for universal education. Why? Because it draws on a very narrow set of human capacities and fails to acknowledge the multiple forms of intelligence children display. Similarly, she dismisses our obsession with standardized testing outcomes, especially those emphasized in the No Child Left Behind Act in the United States. She does not think that education can be improved "merely by designing a better curriculum, finding and implementing a better form of instruction, or instituting a better form of classroom management" (Noddings, 1992/2005, p. 173). Instead, formal education needs to be fundamentally reconceived; it must abandon its narrow focus on a one-size-fits-all approach to disciplinary studies and embrace the broader aim of developing human beings able to care for themselves and for others, for living creatures and the environment, and even for the world of ideas. Noddings provides a detailed account of schools organized around themes of caring, but she avoids giving recipes or prescribing solutions. Rather she asks us to consider alternative educational possibilities. Noddings wants teachers to create opportunities for students to develop their own talents, cultivate their own interests, and pursue their own passions.

One central theme Noddings (1992/2005) emphasizes is continuity:

a. *Continuity of purpose*: Schools should be places where students are cared for and will be encouraged to care deeply themselves.
b. *Continuity of place:* Students should stay in school buildings for longer than two or three years.
c. *Continuity of people:* Students might remain with one teacher for three or more years; placement would be made by mutual consent.
d. *Continuity in curriculum:* Curricular content should be connected to students' personal experience—past and future (pp. 64–72).

Noddings acknowledges that her vision for schooling might require drastic changes in our present

approach to curriculum, teacher preparation, and methods of evaluation. However, she unabashedly articulates her radical views in striking detail; moreover, in her critique of contemporary schooling, she repeatedly expresses her aversion to the ideology of control currently undergirding contemporary schooling in the United States.

Noddings believes that students, in being encouraged to develop deepening personal awareness, must be able to discuss important existential questions freely, including spiritual questions. Finally, she believes her emphasis on caring in different domains should not be viewed as "soft or mushy," since each domain demands that students and teachers strive continuously for competence in caring so that "the recipient of our care—person, animal, object, or idea—is enhanced" (Noddings, 1992/2005, p. 175).

Criticism of Noddings's Work on Caring

In spite of its widespread influence, Noddings's views of caring have not gone without serious criticism. Some Kantians suggest that she has not been fair to the great philosopher; another important line of criticism, already mentioned, has been that her view has overemphasized interpersonal caring and de-emphasized a wide range of other moral issues related both to social policy and social justice. Noddings has acknowledged these concerns in her later work, especially in *Starting at Home: Caring and Social Policy* and *The Maternal Factor.* In so doing, she has developed what she describes as a "needs-based" approach to social policy. In particular, Noddings has acknowledged that "caring about" was discussed insufficiently in her seminal 1984 work; however, she believes that "caring about" remains a motivational foundation for justice, albeit not the only starting point for it. In recent years, Noddings has continued to expand on her core views of caring, writing extensively about topics such as happiness, women and evil, feminism, and peace education.

Michael S. Katz

See also Buber, Martin; Feminist Ethics; Kant, Immanuel; MacIntyre, Alasdair; Moral Education; Virtue Ethics

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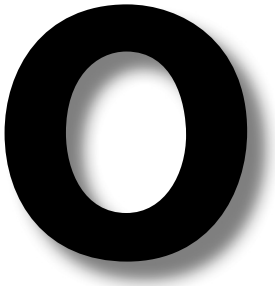

Oakeshott, Michael

Michael Oakeshott (1901–1990) was a British philosopher, political theorist, and historian of ideas. He published many reviews, an influential edition of Thomas Hobbes's *Leviathan*, and two book-length treatises, but he is perhaps best known for his lucid, urbane essays on culture and conduct, history and politics, and experience and education. Out of step with the philosophical, political, and educational currents of his day, Oakeshott founded no school. Nonetheless, his eloquent defenses of practical judgment and liberal learning in a technocratic and instrumental age make him one of the most important thinkers of the 20th century. Before the discussion turns to education, the major themes of his work need to be outlined.

Life and Work

Oakeshott's passion for ideas seems to have been sparked early. As a boy, he read Michel de Montaigne with his father. As a student at the progressive, coeducational St. George's School, he is thought to have heard impromptu lectures on Immanuel Kant and Georg Wilhelm Friedrich Hegel from the school's eccentric headmaster, Cecil Grant. Later, he attended Cambridge, where he read history and heard the idealist J. M. E. McTaggart's lectures on "Introduction to Philosophy." Oakeshott then spent some time studying theology in Europe and teaching English at a grammar school before returning to Cambridge to earn his doctorate and teach history of political thought. After his time at Cambridge—punctuated by his service as a World War II squadron commander—he assumed professorships first at Oxford and then at the London School of Economics, where he taught until his retirement in 1968.

Oakeshott broke onto the philosophical scene with *Experience and Its Modes* (1933/1985), a study (in the Anglo-Hegelian style of F. H. Bradley and Bernard Bosanquet) of the refraction of full experience through the lenses of history, science, and practice. Throughout the 1940s, 1950s, and 1960s, Oakeshott showed himself to be a master of the essay form—provisional yet authoritative reflections, many of which would later be collected in important volumes such as *Rationalism in Politics* (1962), *Hobbes on Civil Association* (1975), *On History* (1983), and *The Voice of Liberal Learning* (1989). Late in life, he ventured his second systematic book-length study, *On Human Conduct* (1933/1975), which seeks to articulate the tacit values of modern civic life, the norms embedded in the practices through which we collectively maintain spaces where individuality might flourish.

Oakeshott as Theorist

Oakeshott is notoriously difficult to categorize. He has been read as a liberal theorist and as an antiliberal theorist. His dissatisfaction with the rationalism and reformism characteristic of liberal modernity has led some to view Oakeshott as a belated aristocrat; his antifoundationalist epistemology and anti-essentialist philosophical anthropology have led others to view him as a postmodern thinker. Politically, he has

been claimed by Tories (Margaret Thatcher offered him a knighthood, which he refused), progressives (Richard Rorty), and even radicals (Chantal Mouffe).

Though Oakeshott is often read as a Burkean traditionalist, he is better situated in the diverse group of 20th century thinkers that includes Hannah Arendt, John Dewey, Hans-Georg Gadamer, and Alasdair MacIntyre. Drawing inspiration from Hegel and Aristotle, these thinkers sought alternatives to major modern antinomies between freedom and solidarity, and reason and tradition. Thus, while Oakeshott opposed atomistic liberalism, he felt no nostalgia for *universitas*, his term for a community united by a shared purpose. What inspires Oakeshott is another model of affiliation. Thrown together by fate, the members of a *societas* are bound to one another only by the sense of civility and loyalty that develops through the "conversation" emanating from and bridging their diverse projects.

Criticisms of Rationalism, Technicism, and Iconoclasm

Oakeshott also rejected the dichotomy between methodical reason and blind tradition. No irrationalist, Oakeshott did have grave misgivings about what he called "rationalism," which is marked by instrumentalism (the reduction of human purposiveness to problem solving), technicism (the reduction of practical judgment to technical knowledge), and iconoclasm (the desire to replace local, evolving institutions with new ones, built from scratch according to general, rational principles).

Oakeshott's entire oeuvre can be read as an attempt to counter just these three modern prejudices. On his view, the rationalist misunderstands institutions as mere tools, failing to see them as embodying the sort of noninstrumental values that make life worth living. Even if we accepted this instrumental reduction of social practices, iconoclasm would be dangerous. For Oakeshott, we are better off gradually amending the reasonable (if also messy and incomplete) ideas found in existing institutions than we are generating grand ideologies to enact wholesale reform.

Oakeshott also challenged the key prejudices of technicism, which are (a) if we know something, we must have learned it deliberately and explicitly, so that (b) knowledge must be something codifiable, and (c) excellence in practice hinges on command of transmissible maxims and techniques. Oakeshott counters that our most valuable forms of knowledge are rarely the product of explicit teaching. Success in practice depends largely on dispositions learned indirectly. The experienced practitioner is distinguished by his vision and judgment and by his ability to connect general rules with specific cases and to see how these rules must be interpreted, amended, and supplemented.

The rationalist, then, gets both theory and practice wrong, treating the former like a tool and the latter like applied theory. Oakeshott's defense of tacit knowing and practical judgment, however, implies no anti-intellectual utilitarianism. For Oakeshott, the practical was but one "voice" in a larger conversation among rival "modes of imagining," or ways of making sense of the world, such as history, philosophy, poetry, and science. In the quest for fuller experience, one hopes to acquire both fluency in one (or more) of the voices and the special type of "negative capability" (John Keats) that allows one to tolerate radical changes in perspective. Such epistemic humility helps us maintain the richness of the conversation by recognizing the unique contribution of each voice without relativizing them as if they spoke of incommensurably different worlds.

The conversation has grown dull in recent centuries, Oakeshott claims, because of the dominance of the voice of instrumentalism. It quickly collapses into a policy session or an audit in which all must see the world in terms of quantities, thinking in terms of problem solving, life in terms of satisfaction of wants, politics as the distribution of resources, and so on.

Oakeshott on Education

Nowhere is our galloping instrumentalism and technicism revealed more clearly than in education, and it is here that Oakeshott's alternative vision is most clearly expressed. For Oakeshott, education is the process of realizing our full humanity through initiation into "the conversation of man," the millennial struggle to understand the world and the human condition. To invite students into this conversation, liberal education must resist the urge to seem practical and up-to-date. Such donnish rhetoric leads casual readers to write off Oakeshott as another defender of "Great Books" or "cultural literacy." In substance, though, Oakeshott's theory of education has little to do with the standard conservative reaction to progressive education and identity politics. Oakeshott was deeply troubled by the formalism and developmentalism of the child-centered movement, believing that one cannot teach

"thinking skills" or "life skills" except through specific, substantive engagements with *this* historical event, *this* language, *this* text, and *this* work of art. He also found progressives pushing a shallow version of happiness and creativity, an empty version of freedom and voice. (It is worth noting that Dewey himself broke with the progressives for downplaying the curriculum in the name of the child.) Oakeshott was even more alarmed, however, by the other side of the 20th century educational coin: the equation of education with socialization. No one would mistake Oakeshott for a multiculturalist, or even a constructivist, but his theory of education is in fact driven by an ethical pluralism and a vision of learning as active, meaning-making.

To see why, we must retrace a key distinction Oakeshott makes between instrumental and liberal learning. According to Oakeshott, our first education is an education in desire. Creatures of our time and place, unconsciously influenced by our local clans, creeds, and clubs, our imaginations are shaped by deep assumptions about what one ought to do with oneself, about what to want and what to strive for. This first informal education creates the need for two further and rather different types of formal education. On the one hand, we need what Oakeshott calls instrumental education in which we learn how to get what we (happen to) want. On the other hand, we need liberal learning, which Oakeshott defines as a space in which we may wrestle with the question always begged by our instrumental education: What is worth wanting?

In the disciplines, in specific texts and works and inquiries, we find invitations into a wider conversation about the ends and means of human life. For Oakeshott, the human being is a strange sort of creature. We cannot help but tell stories about our nature, condition, and possibility, and then, we find ourselves living out these stories. The good news and the bad news for us is that we possess an inalienable freedom to choose how to negotiate conflicting narratives about ourselves and how to make sense of each narrative. (Here, Oakeshott comes close to a form of constructivism.) Through liberal learning, each of us has the chance to face up to this "ordeal of consciousness," the challenge of individualized personhood. But we navigate this "adventure in self-understanding" with others, past and present, and under the guidance of a teacher.

These stories, and the ways they have been lived out, constitute our human culture, into which we are initiated through liberal learning. Culture for Oakeshott, then, is not a collection of inert facts to be inherited, but it is a conversation to be joined. It is a field of contested meanings, and liberal learning requires each student to interpret and to take responsibility for those interpretations. Liberal learning is prized not as a source of uniform guidance but precisely for its dynamism, as a space to encounter the "tattered maps" left behind by fallible fellow travelers so that we may retrace partway their inspiring, incomplete journeys as we plot our own. The lesson of Oakeshott's classroom is not which way of life is preferred but that there is no timeless ideal to use as a model to escape the ordeal of consciousness. (Here is where we see Oakeshott's anti-essentialism and his ethical pluralism.)

This existential task is ultimately the learner's responsibility, but the teacher plays a critical role. Though liberal learning speaks to a deep human need to interpret ourselves, it is a vulnerable enterprise that must be carefully guarded and deliberately sustained. Liberal learning requires a space buffered from the pressures of practicality, the banality of the everyday, and the myopia of the local and the contemporary. For subtler voices to be heard, the student needs some protection from the ceaseless distraction of trivial facts and momentary fads, hollow sentiments, and mindless clichés. This leads Oakeshott to say that schools and universities must be sheltered spaces. Here, one pictures a leafy campus where the wealthy maintain their privilege, and Oakeshott again seems open to the charge of reactionary nostalgia. However, Oakeshott's concern is not literal seclusion but separation from the utilitarian demands of the here and now. The teacher must work to help students set aside the question "How does this help me get what I already want?" so that they may recognize deeper, nagging questions: Is this who I really am? What other resources exist that might help me better understand my condition and chart a path through life? In addition to clearing a space for this encounter, the teacher models the open-minded, substantive quest for self-understanding.

Thus, Oakeshott offers us not techniques for managing classrooms but language for defending them. He offers us not reading lists but an evocation of why reading might matter to young people trying to chart their course. He offers not pedagogical formulas and techniques but precisely a brief for the importance of the teacher's character and judgment. He offers a vision of education as an engagement with its own integrity, uncompromised by those who would subsume it under the economic, political,

or therapeutic, and intimately woven into the very task of living a human life.

Chris Higgins and Katherine K. Jo

See also Adler, Mortimer, and the Paideia Program; *Bildung*; Communitarianism; Dewey, John; Hermeneutics; Liberal Education: Overview; Liberalism; MacIntyre, Alasdair; Phronesis (Practical Reason)

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Open Schools

Since the mid-19th century, ideological tensions have existed in classroom teaching among European and U.S. school reformers who sought to have teachers direct and control student actions in covering a mandated curriculum and those who sought to organize classroom instruction to actively engage students' interest in subject matter and skills. Although the dominant mode of instruction was teacher directed in both Europe and the United States, educators on both sides of the Atlantic Ocean made repeated efforts to introduce and maintain student-centered forms of teaching and learning.

Johan Pestalozzi, the Swiss educator, and Friedrich Froebel, the German founder of the kindergarten, for example, influenced U.S. educators to focus on children's ideas, passions, and activities in organizing teaching concepts and learning skills. In the United States, Edward Sheldon at the Oswego State Normal and Training School (NY) in the 1860s invented "object teaching" using Pestalozzi's ideas; Francis Parker learned much from Sheldon and toured European schools before becoming superintendent of the Quincy schools (MA) and applying both home-grown and European ideas to these schools. Parker often said, "The child is the center of all education." He then moved to Chicago to train teachers where he came to know John Dewey who wrote extensively about the whole child, curriculum, and society. Dewey started the Lab School at the University of Chicago where his ideas about how children grew and learned were put into practice. Child-centered teaching and learning, then, has both European and American antecedents. Nonetheless, with all of these periodic efforts at getting teachers to practice child-centered approaches, teacher-directed instruction continued to govern elementary and secondary classroom practice. This entry discusses how the open schools movement started, its growth in the United States, how open classrooms operated, why they died out, and how the open schools movement fit into broader struggles over child-centered and teacher-centered teaching.

Open Classrooms Spread in the United States

Within that context, open classrooms or informal education—a British import—extended, elaborated, and modernized earlier versions of child-centered schooling when it swept across the United States in the late 1960s and early 1970s. The story begins in 1967 when a parliamentary commission headed by Lady Bridget Plowden published a report, *Children and Their Primary Schools*, that promoted informal education in all British schools. American educators visited British classrooms where informal education was common. Many viewed informal education—or, as they came to call it, open classrooms—as an answer to both the U.S. educational system's critics and serious problems in U.S. society.

Beginning in the late 1950s, critics began blaming U.S. schools for national problems. From low academic standards, to the launch of the Soviet satellite *Sputnik*, to urban decay, to failure to get Johnny to read properly, detractors said poor schooling harmed the nation. Schools graduated youth unprepared to

go to college and become engineers and scientists to compete with the Soviet Union; schools offered unequal education to segregated students; schools taught disadvantaged children poorly; and schools created conformity-embracing graduates who were unimaginative and seldom questioned authority. Critics thought that schools could help the nation win the Cold War, make equal opportunity a living reality in classrooms, and increase creativity in a culture of conformity that throttled imagination.

For such an array of problems, champions of open classrooms believed the source of ills in U.S. public schools to be the traditional teacher-directed classroom that crushed students' attention, motivation to learn, and imagination. "Learning by doing" was the answer for those who believed that child-centered classrooms would solve not only inattention, alienation from subject matter, and lack of ingenuity but also larger social and political problems in the nation.

The open-classroom movement occurred as major cultural changes swept across the United States. The late 1960s and early 1970s saw the rise of a youth-oriented counterculture and various political and social movements—the civil rights movement, antiwar protests, and feminist and environmental activism—that challenged traditional authorities, including the best way to organize classrooms and schools and how teachers should teach students.

In both Britain and the United States, open classrooms sought no teacher-directed lessons, no standardized tests, and no detailed curriculum. While open classrooms varied a great deal from place to place, the best of them had rooms where children came in contact with things, books, and one another at "interest centers" and learned at their own pace with the help of the teacher. Teachers structured the classroom and activities for individual students and small work groups. They helped students negotiate each of the reading, math, science, art, and other interest centers on the principle that children learn best when they are interested and see the importance of what they are doing.

Here is a snapshot of a New York City third-grade open classroom in 1971:

> Carelessly draped over the seat, arm, and back of a big old easy chair are three children, each reading to himself. Several other children nearby sprawl comfortably on a covered mattress on the floor, rehearsing a song they have written and copied into a song folio.
>
> One grouping of tables is a science area with . . . magnets, mirrors, a prism, magnifying glasses, a microscope. . . . Several other tables placed together and surrounded by chairs hold a great variety of math materials such as "geo blocks," combination locks, and Cuisenaire rods, rulers, and graph paper. . . . The teacher sits down at a small round table for a few minutes with two boys, and they work together on vocabulary with word cards. . . . Children move in and out of the classroom constantly. (Schneir & Schneir, 1971, pp. 30–31)

As the idea of open classrooms spread, thousands of elementary school classrooms became homelike settings where young children moved from one learning center for math to another for art. Additional learning centers engaged them in science, reading, and writing lessons. In some schools, teacher teams worked with multiage groups of students and created elementary schools where children were no longer assigned to grade levels. Some school districts started alternative open education programs at the high school level and gave teachers discretion to create new academic courses where students directed their own learning and worked in the community. At both the elementary and secondary levels, open classrooms meant that teachers were guiding students rather than directing minute-by-minute activities.

By the early 1970s, the phrase *open classrooms* dominated educators' vocabularies. Even though parents and practitioners found it hard to define exactly what an open classroom was, many school boards adopted the programs. Few superintendents or principals could risk saying aloud that they had neither heard of the innovation nor found it desirable without risking sneers or snickers.

Goodbye to Open Classrooms

Just a few years later, however, conditions changed. By the mid-1970s, with the economy slowing down and the Vietnam War splitting the nation, critics again jumped on public schools. These crises gave rise anew to the belief that somehow schools were both the problem and solution to national ills. That belief hardened as Scholastic Aptitude Test (SAT) scores fell, evidence of the failure in school desegregation in closing achievement gaps grew, and as reports piled up of growing violence in urban schools. This time reformers called not for open classrooms and child-centered education but for a

return to the basics, again mirroring general social trends—namely, the conservative backlash against the cultural and political changes of the 1960s and early 1970s.

Traditional schools as alternatives sprouted in suburbs and cities. States tried to raise academic standards by developing minimum competency tests that high school students had to pass in order to receive a diploma. By 1975, media interest and academic attention on open classrooms had shrunk. By the early 1980s, open classrooms had become a forgotten reform.

But were open classrooms just another fad? Perhaps, they were in the sense that, like TV quiz shows and eight-track tapes, they had parachuted onto the scene and then disappeared with hardly a trace. Considering them merely a fad, however, would miss the deeper meaning of open classrooms as yet another skirmish in the ideological wars that have split educators and the public since the first tax-supported schools opened their doors in the early 1800s.

Ideological Struggles Over Child-Centered and Teacher-Centered Teaching

For at least two centuries, competing traditions of teaching reading, math, citizenship, and morality have fired policy debates and occasionally touched classroom practices. In teacher-centered instruction, knowledge is often (but not always) "presented" to a learner (via lectures, textbooks, and testing) who is—pick your metaphor—a "blank slate" or a "vessel to fill." In student-centered instruction, by contrast, knowledge is often (but not always) "discovered" by the learner (via individual and small-group work, projects blending different subjects and skills, and inquiry and questioning). Young learners are described as "rich clay in the hands of an artist." Rival traditions they were, but in the nation's classrooms for well over a century, varied versions of teacher-centered instruction dominated daily practice.

Nonetheless, child-centered reformers tried again and again to alter prevailing classroom practices. Pedagogical progressives, for example, mounted major efforts to alter teacher-centered instruction at the beginning of the 20th century. They were successful in changing the language and curriculum but little reform of teaching practices occurred. Then in the late 1960s, enthusiasts for open classrooms restarted child-centered learning. As before, a wide gap between talk and practice remained. Among educators, mainstream classroom practices remained largely teacher centered, even if substantial numbers of teachers–trained by progressive faculty members—grasped pieces of the student-centered tradition and created hybrid practices.

The present moment in American education, with its emphasis on standards-based curricula and test-driven accountability, provides a safe haven for those who prize teacher-centered lessons. Nevertheless, many teachers, particularly in elementary schools, continue to promote active student involvement, cross-disciplinary projects completed by small groups, and similar activities. And full-fledged open classrooms still exist in scattered locations across the country from the Open Classroom School in Salt Lake City to the Irwin Avenue Open Elementary in Charlotte, North Carolina. Many teachers and principals still embrace the principles of open classrooms, but they keep a low profile to avoid attracting attention at a time when test-driven accountability dominates teaching practices.

Why this long-running ideological war over the best ways to teach reading, math, science, social studies, and science? Ideological warfare occurs because different models of how to rear infants, toddlers, and young children exist and have competed with one another for centuries. From John Locke, to Jean-Jacques Rousseau, to Herbert Spencer, to Sigmund Freud, to, yes, John Dewey—each saw differences in how children grow and flourish, leading policymakers and practitioners to take different directions in determining how children and youth should be schooled, much less educated.

So while the open classroom has clearly disappeared from the vocabulary of educators, another variation is likely to reappear in the years ahead. Deep-seated progressive and traditional beliefs about rearing children, classroom teaching, and learning, and the values and knowledge that should be instilled in the next generation will continue to reappear because schools historically have been battlegrounds for solving national problems and working out differences in values. Since children differ in their motivations, interests, and backgrounds and learn at different speeds in different subjects, there will never be a victory for either traditional or child-centered teaching since no single best way for teachers to teach and for children to learn can fit all situations.

Larry Cuban

See also Dewey, John; Discovery Learning: Pros and Cons; Neill, A. S., and Summerhill; Progressive Education and Its Critics; Radical Constructivism: Ernst von Glasersfeld; Rousseau, Jean-Jacques

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P

PAIDEIA

According to Plato (ca. 428 to ca. 347 BCE), who gave the term philosophical depth, *paideia* meant the conversion of the human soul toward the divine source of light, which he identified with the Form of the Good. Through the reception of Platonism by the early church fathers, such as Augustine, paideia was introduced into the Christian theory of education, and exerted great influence on medieval, Renaissance, and modern theories of education. This entry examines the main features as expounded in the Analogy of the Cave and the discussion following it in Book 7 of the *Republic*.

In the Analogy of the Cave (also known as the Allegory, or Parable, of the Cave), human beings are depicted as prisoners living in an underground cavern. They are chained there from childhood, so that they are unable to move or see anything but the cave's end wall, and a fire burns behind them whose light projects various shadows onto the wall. As these prisoners are unable to turn around, the only reality they can perceive is the shadows. This initial situation is overcome when a prisoner is released, turns around, and walks toward the light. However, such a process would require gradual habituation. Otherwise, the sudden light from the fire would blind the prisoner, and he would gladly return to the initial situation. Only through the long process of habituation can the prisoner first see the fire and then leave the cave. Once outside the cave, to accustom his eyes to the brighter light, he must avoid looking at the sun and instead undergo several steps, such as seeing shadows and reflections on the water. At the end of this process, the prisoner will be able to see the sun, the ultimate source of light and life. Now, if the prisoner were to return to the cave, he would be unable to immediately distinguish the shadows and would hence become a laughingstock there. People in the cave would consider any ascent out of the cave dangerous and would henceforth kill anyone who tried to set them free. Thus, the Analogy of the Cave ends with an allusion to the execution of Plato's teacher, Socrates.

The conception of paideia depicted by this analogy has several remarkable features. First, the goal of paideia, represented by the sun, is the Form of the Good that not only transcends the visible world but is also beyond other Forms. In Plato's choice of the Form of the Good, we can discern the influence of Socrates, whose interest was predominantly moral. However, unlike Socrates, Plato connects the search for goodness with his theory of Forms. Hannah Arendt's distinction between eternity and immortality in *The Human Condition* (1958) may help us understand the significance of this thought. The Form of the Good transcends time and space. In this sense, it is deathless and eternal, but eternity differs from the immortality that consists of durability in time. Before Plato, the Greeks strove after immortality by gaining fame that would last forever in the human world. For Plato, in contrast, the greatest achievement a human being can attain consists of coming into union with the ultimate, divine principle that exists beyond time and space. This idea of Plato had an enormous influence on Christianity.

Second, human nature has a strong affinity with the divine principle itself. Plato illustrates this with his image of human eyes that partake of light. Only because of this can they see the light of the sun. The strong affinity with the divine gives human beings a special status among creatures. In the *Phaedrus* (243E–257B), Plato expresses this thought more dramatically: Only those souls who, before birth, have beheld the gods are permitted to dwell in a human body. This is the original concept of human dignity, which has a long history in Western tradition.

Third, Plato conceptualizes paideia as a kind of conversion, turning from the tumults of worldly affairs to the divine principle. Because the soul partakes of the divine principle, this conversion can be considered as a process of returning to the more genuine self. In this respect, paideia differs sharply from ordinary, as well as sophistic, education, which, according to Plato, is restricted to the world of shadows—that is, the uncertain, contingent world of human affairs.

Fourth, the mathematical sciences and dialectics play a decisive role in paideia, a conversion that consists of different steps to enable the soul's gradual habituation to the ultimate principle. These steps consist of the mathematical sciences (i.e., arithmetic, plane geometry, solid geometry, astronomy, and harmonics) and dialectics. The mathematical sciences are selected not for their utility but primarily for their ontological status. They lead the mind from the world of the senses toward the realm of Platonic Forms. However, what finally leads to recognition of the ultimate principle, the Form of the Good, is dialectics. Dialectics surpasses other sciences through its critical character: Whereas other sciences build on premises assumed granted, dialectics never ceases examining even its own premises until it reaches the ultimate principle. Plato's theory of dialectics was inspired by the Socratic practice of dialogue, which involves the tireless search for truth by means of critical examination. The fundamental difference between the two is that Socratic dialogue is a free conversation ending in *aporia* but Platonic dialectics is part of curricula with the special function of attaining the ultimate principle.

Fifth, even though it is not mentioned in the Allegory of the Cave, Plato assigns an important role in educating children to poetry (in this case, always sung) and gymnastics. Plato inherited this practice from the Greek tradition. Yet significant differences are present. Plato subjugates poetry to strict moral exigency and strongly criticizes traditional materials such as the Homeric epics and the Greek tragedies. Thus, Plato's work instigates a long tradition in which moral education greatly influenced education in the arts or, in other words, the arts became a preliminary part of it.

Despite the rise of modern philosophy in the 17th century, with its quest for epistemological certainty, paideia retained some influence among educational thinkers. For instance, the educational thought of Johann Comenius (1592–1670) was permeated by the metaphysics of light derived from the Analogy of the Cave. Jean-Jacques Rousseau (1712–1778) considered the *Republic* as the best treatise on public education. The human relationship to the divine remained a driving force of the work of Johann Pestalozzi (1746–1827) and Friedrich Froebel (1782–1852). However, there have also been criticisms of paideia. For example, Friedrich Nietzsche (*The Birth of Tragedy*, 1872) and Richard Rorty (*Philosophy and the Mirror of Nature*, 1981) argued that the metaphysical foundation of paideia had lost its validity. Other critics such as Karl Popper (*The Open Society and Its Enemies*, 1945) found paideia to be a precursor of totalitarian education. However, even though such criticisms may be partly justified, paideia can still challenge us to envisage education within a broader context that is not covered by contemporary theories of education.

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See also Augustine; *Bildung*; Dialogue; Nietzsche, Friedrich; Plato; Spectator Theory of Knowledge

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PATRIOTISM

Should children be taught to be patriotic? This is a question on which educational theorists are deeply divided. One bone of contention is whether or not it is permissible to give children a one-sided, rose-tinted, or distorted account of national history in order to cultivate attachment to the nation. Another is whether or not there are good reasons for loving one's country that can and should be presented to children. This entry considers arguments on both sides of these issues.

Just what is meant by "patriotism" is a contentious question in its own right. It is, however, generally accepted by educational theorists working in this area that patriotism is love of one's country. To be patriotic is to have a strong emotional attachment to a national community and the land on which it resides.

Suppose we are tempted by the thought that, where a democratic polity is coextensive with a national community, there are certain advantages to the polity in its members being sentimentally attached to the community. And suppose we also think that such sentimental attachment can be cultivated in children only by giving them a romanticized or mythologized picture of the nation. Does the valued political end justify the dubious pedagogical means? William Galston (1991) maintains that it does. He defends a form of civic education in which children are offered a "noble, moralizing history: a pantheon of heroes who confer legitimacy on central institutions and constitute worthy objects of emulation" (p. 101). But many educational theorists, such as David Archard (1999) and Harry Brighouse (2006), balk at Galston's proposal. Deliberate historical distortion or misrepresentation, they suggest, is too high a price to pay for a patriotic citizenry. It is legitimate to hope that children will come, of their own volition, to feel some sentimental attachment to the country in which they are raised; but it would be quite wrong to compromise the integrity and objectivity of education by using national mythology to inspire such attachment.

Perhaps, though, the parties on both sides of this dispute are too quick to assume that national sentiment can be fostered only by historical misrepresentation. If it is true that patriotism confers benefits on democratic polities, might we not encourage it in children by drawing attention to those benefits? To be sure, the belief that a sentiment is advantageous is not, in itself, usually enough to generate that sentiment. But where there are already flickers of national affection, positive evaluation may be just what is needed to fan them into flames of love.

This sets the stage for the second of the contemporary debates about patriotic education: Are we in a position to provide children with good reasons to love their country? To answer this question in the affirmative, it would be necessary to show not only that patriotism is in some ways beneficial but also that the benefits it confers outweigh any costs it incurs.

The case for believing that there are advantages to patriotic attachment in democratic polities is strong. It is very plausible to hold that national sentiment acts as a spur to civic duty; it supplements the motivation of citizens to meet their political obligations. Because some of the obligations of citizenship are fairly onerous and in conflict with self-interest, there is an ever-present danger that citizens will be inadequately motivated to fulfill them. But if their political community is a national community they love, they are emotionally invested in its flourishing and consequently have a powerful supplementary motive to do what they ought. This benefit figures prominently in the arguments for patriotic education advanced by Eamonn Callan (1997, 2006) and John White (1996). As Callan (2006) puts it, "Love of country blurs the distinction between self-interest and the interests of compatriots in a way that makes action to support the creation of just institutions less costly" (p. 543).

But there is also a strong case for believing that patriotism has a significant cost for democratic polities. For much the same reasons as it spurs civic duty, national sentiment also tends to impede civic judgment. Citizens of democratic states are required to elect governments and hold them to account, to subject to scrutiny the domestic and foreign policies devised and pursued on their behalf, and to vote or protest against such policies as they find to be imprudent or unjust. They can meet these requirements only if they maintain some critical distance from their political representatives and institutions, if they can stand back far enough from the policies pursued by the state to be able to assess them rationally and objectively. In the context of nation-states, patriotism works against the preservation of critical distance because the actions of the state are simultaneously the actions of the nation, which patriots are predisposed to view in a favorable light. The investment of patriots in their country's flourishing inclines

them to lose sight of its flaws and failures in their eagerness to celebrate its merits and achievements. In the words of the poet William Blake, "Love to faults is always blind/Always is to joy inclin'd."

The crux of the matter is how we are to assess the relative weight of these considerations. Callan thinks that the motivational benefit significantly outweighs the cognitive cost. He suggests that the threat to civic judgment posed by the bias of the patriot is no greater than the threat posed by the apathy of the nonpatriot. Michael Hand (2011) argues, to the contrary, that the considerations are evenly weighted, so whether or not patriotic attachment is desirable must be seen as an open question. If that is right, presenting the advantages of national sentiment as if they amounted to good reasons for loving one's country would raise the same educational worries about distortion and misrepresentation as Galston's "noble, moralizing history."

Michael Hand

See also Citizenship and Civic Education; Democratic Theory of Education; Indoctrination

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Peace Education

Peace education can be most simply thought of as educating students to create a more peaceful world. However, just as peace needs to be thought of as more than merely the absence of war, so too peace education needs to be thought of as being more than educating students to understand the importance of avoiding war. Peace is related to the presence of justice, and thus a fuller definition of peace education is educating students to create a more just and harmonious world. Peace education also may be thought of as having an international dimension, that is, educating for peace and social justice between nation-states; as having a domestic dimension, that is, educating for peace and social justice within societies, groups, and families; and as having a personal dimension, that is, educating for peace and justice in our individual personal relationships and educating for inner peace. Moreover, many writers now also see peace education as encompassing our interrelationship with our natural environment. All these dimensions of peace education can be seen to be interrelated.

The External Authority for Peace Education

Peace education as a deliberate endeavor is a relatively recent phenomenon and has arisen substantially out of concerns about the destructiveness and suffering resulting from global warfare in recent modern history and a desire to avoid this in the future. As the United Nations was also established very much out of a desire to avoid global war in the future, it is not surprising that one should find statements about the importance of peace education, explicitly or implicitly, within numerous United Nations instruments and declarations. It is noteworthy that in recent years, there has been a trend toward including a cultural dimension in peace education, in that the United Nations now sees long-term peace education as encouraging a culture of peace, involving values, attitudes, and behaviors. The United Nations remains an important authority for a commitment to peace education, but this is very much an assumed authority or external rationale or legitimation (Page, 2004, 2008, 2010).

The Philosophical Rationale for Peace Education

Articulating an educational and philosophical rationale for peace education is much more complex. James Calleja has argued that a philosophical foundation for peace education may be found in deontological ethics; that is, we have a duty to seek peace and a duty to teach peace. Indeed, Immanuel Kant, in the Second Definitive Article in his influential 1795 essay *Zum ewigen Frieden* (On Perpetual Peace), argues that we have an "immediate duty" to establish a state of peace, and it follows that peace

education ought to be regarded as a duty. James Page (2004, 2008) has argued that a philosophical foundation for peace education also may be found in virtue ethics, consequentialist ethics, conservative political ethics, aesthetic ethics, and the ethic of care. What makes this issue more complex is that many writers, including John Dewey and Paulo Freire, seem to be advocating peace education without using this phrase. Indeed, one can see elements of a philosophy of peace education in the work of many philosophers and within the elements of world religions.

Indoctrination and Peace Education

One of the ways to think about a philosophy of peace education is to examine the possible objections to it. One of the most obvious challenges is that peace education may be perceived as a form of indoctrination and, as such, peace education cannot be considered a valid educational endeavor. Indeed, the charge of indoctrination is often raised at the public policy level against peace education. In the sense that peace education entails a value commitment to the creation of a peaceful and just society, then this charge might be considered valid—peace education is admittedly closely related to peace advocacy. However, indoctrination also implies a denial of the right of the individual, in this case the student, to form his or her own opinions on issues. A skillful and sensitive approach to peace education will include allowing the free expression of individual opinion by the student. Thus, process, as well as content, is crucial for peace education, and without an approach that recognizes the right of the student to form opinions and views, it is inevitable that any peace education will be seen as empty moralizing (or worse).

The Content of Peace Education

A second challenge for any philosophy of peace education is that the scope of the enterprise tends to become impossibly open-ended and undefined. The reason for this open-ended nature of peace education is that there are many dimensions to what constitutes a peaceful and just society; and it follows that peace education may be seen as encouraging tolerance and understanding, challenging racism and sexism, and encouraging a view of history that sees war as not inevitable, as well as encouraging healthy self-assertiveness and inner calm. One can even make a case that sexuality and relationships education can be deemed part of peace education, in that sexually well-adjusted persons are arguably less aggressive. One resolution to this problem is to see peace education as implicit within the idea of education itself. All education is implicitly peace education in that there is a moral assumption within all education that students are being trained to operate in and contribute to a peaceful world.

Peace Education and Political Change

Another challenge for peace education is that it may be seen as an avoidance strategy by a world confronted with problems of peace and social justice. Saying that one seeks to educate a future generation to become more peaceful may be seen as avoiding the reality that policy answers need to be found now for the problems of war and social injustice. Committing to peace education can be seen as forever postponing the need to make policy decisions into the future. Moreover, it is natural that students may become resentful at being told that it is their responsibility to create a more peaceful world, when in reality, it is the social and political responsibility of every thinking person. The answer may lie in an integrated approach to education, in which all education, including peace education, is seen as part of a wider moral commitment to social change, toward working for a better world. In this sense, peace education is just one part of the wider imperative to individual and social action.

James S. Page

See also Education, Concept of; Gandhi, Mahatma; Indoctrination; Kant, Immanuel; Noddings, Nel; Values Education

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Pedagogical Content Knowledge: Lee Shulman

Pedagogical content knowledge, or PCK, as it is often called, is a construct coined by Lee Shulman (1938–) in the mid-1980s to emphasize the importance of studying teacher professional knowledge, and teacher knowledge of subject matter in particular. Shulman defined PCK as a special kind of knowledge possessed by experienced teachers that constitutes a fusion of subject matter knowledge and the pedagogy appropriate for teaching particular topics. It includes knowledge about learners and how to represent subject matter knowledge in forms that make it comprehensible to students. According to Shulman, this knowledge distinguishes the subject matter pedagogue from the subject matter specialist; the former understands the subject in a different way from the latter. This entry first describes the intellectual context within which the construct was proposed and then describes different conceptualizations of the nature of PCK. The entry concludes with a description of recent developments in research on PCK.

Research on Teaching

During the decade prior to Shulman's introduction of the idea of PCK, educational researchers were working within what has been termed the process–product paradigm, a program led by N. L. Gage that aimed to identify relations between teacher behavior (process) and student learning or achievement (product). This was a vigorous and productive research program that led to the identification of teacher behaviors conducive to student learning and supported the conception of teaching as direct instruction. However, this research program was based on behaviorism, with its emphasis on behavior rather than cognition and its search for general laws or principles. Thus, researchers working within this paradigm identified generic teacher behaviors or effective teaching practices across grade levels and different school subjects. Conversely, other educational researchers studying teaching, influenced by the advent of cognitive psychology, investigated teacher planning or teacher thinking rather than behavior as the important "process" and proposed models of teacher planning.

Shulman's potent contribution was in pointing out that even these more cognitively based programs of research on teaching were still viewing teaching as a generic activity. He called attention to what he called the missing paradigm or program in research on teaching—the study of teaching of particular subject matter. Influenced by his previous research on medical reasoning, which had revealed that doctors who were better diagnosticians possessed better domain-specific knowledge, he appreciated the need to study the subject matter specificity of teaching. The program of research that Shulman, in collaboration with his doctoral students, initiated at Stanford University in the early 1980s (which lasted to the early 1990s) on teacher knowledge and teacher assessment gave birth, at a very early stage, to the conception of PCK but continued to produce important findings about the relations between pedagogy and content.

Conceptions of PCK

In his first article in 1986, which introduced the concept of PCK, Shulman presented PCK as a subcategory of teacher content knowledge, the other two being subject matter content knowledge and curricular knowledge. He conceptualized PCK as a specific form of content knowledge that is relevant to its teaching. It is topic specific, that is, related to the most regularly taught topics in a teacher's subject specialization. Additionally, it includes forms of representation of the content, namely, the analogies, illustrations, examples, explanations, demonstrations, and activities that make the content comprehensible to students. Finally, it includes knowledge about student difficulties in learning the content of the topic and how to overcome these difficulties. These include students' alternative conceptions and misconceptions and how to engage with these prior ideas that students hold and that often hamper effective learning.

In a second article in 1987, Shulman identified PCK as one of seven categories that constitute the knowledge base of teachers, the other six categories being content knowledge, general pedagogic knowledge, curriculum knowledge, knowledge of learners, knowledge of educational contexts, and knowledge of educational ends, purposes, and values. In contrast to its conceptualization in the first article, PCK was conceptualized by Shulman as a separate category of teacher knowledge and not as a subcategory of content knowledge. However, he emphasized, once more, the topic specificity of PCK. Shulman did not elaborate on the interactions between these knowledge categories, the relations that might exist between them, or the type of knowledge in each category.

Other scholars introduced different conceptualizations of PCK. One trend was to include some of the categories of teacher knowledge originally proposed by Shulman as new components of PCK. In one early recategorization of teacher knowledge, knowledge and beliefs about purposes and knowledge of curriculum materials were considered components of PCK rather than separate knowledge categories as Shulman had proposed. Later, subject matter knowledge was proposed by some as a component of PCK. Another trend was to neglect the topic-specific nature of PCK and to treat it as a general and theoretical type of knowledge, which, to other researchers, seemed to contradict its perceived nature as the implicit, topic-specific, situated, idiosyncratic, and practical knowledge that teachers acquire mainly from experience. Still others considered it as subject specific rather than topic specific; that is, there is a pedagogy germane to teaching a subject (biology or science more generally) rather than a topic (e.g., photosynthesis).

These different trends reveal a lack of agreement among educational scholars about the definition of PCK and a diversity of conceptualizations about its nature. Yet the ambiguity associated with the construct did not prevent educational researchers and policymakers from enthusiastically accepting it.

Recent Development in the Study of PCK

The construct of PCK has been adopted, modified, or appropriated by numerous educationists since 1986. Shulman's 1986 article has been cited more than 7,400 times and his later article, about the same; and the number of articles published annually on PCK is still growing. The research utilizing PCK has spread into a number of different subject areas, including science, mathematics, English, social studies, and physical education, with the highest number of researchers working in science and mathematics education.

Several publications report on the use of PCK as a basis for designing preservice teacher education programs and continuous professional development programs. Additionally, PCK has formed a framework for teacher assessment. For example, the National Board for Professional Teaching Standards in the United States certifies teachers by content area and the educational level at which the teacher works. Subject matter knowledge and knowledge of students, the two most important components of PCK, are clearly highlighted in this framework. Not only has the PCK construct caught the interest of educationists working at the school level, but also in higher education, the idea was well received because, as Shulman himself has pointed out, it shows that teaching, like research, is domain or discipline specific.

However, and despite the remarkable implications of the introduction of the PCK construct, questions still existed about the vagueness associated with the construct and about the research on PCK, questions that led to new developments in defining the nature of the construct and its validity. With respect to the nature of PCK and its representation, there is convergence, lately, among scholars working in different parts of the world about the need to portray specific cases of PCK in successful teaching. Hashweh proposed that we think of PCK as a set or repertoire of personal, content-specific pedagogical constructions that teachers develop as a result of repeated planning and teaching of, and reflection on the teaching of, the most regularly taught topics. These cases have components of both story-based and generalized event-based memories. Additionally, a specific pedagogical construction is a result of the interaction of the different knowledge categories in the teacher's mind (e.g., subject matter knowledge, aims and purposes, and knowledge of students) and has components that echo these general knowledge categories (e.g., content knowledge about forces and motion, the teacher's aims and purposes when teaching about forces and motion, and student-specific difficulties and alternative conceptions about forces and motion). The approach allows the identification, description, and representation of concrete

cases, or pedagogical constructions, related to the successful teaching of important topics within specific domains. It also permits us to identify important features necessary to the teaching of a certain topic that are common among the pedagogical constructions of different successful teachers. That is, the approach facilitates the portrayal of standard common professional practice in the teaching of specific topics while simultaneously legitimating the diversity in teaching approaches arising from individual teachers' philosophies and constraints of contexts. Finally, the approach provides outcomes that are directly related to the improvement of practice.

Van Driel and colleagues also remarked that few topic-specific examples of PCK existed in the literature, and they presented the topic-specific PCK for teaching chemical equilibrium in chemistry. Loughran and colleagues developed a method of identifying topic-specific PCK and portraying it in a way that is useful to teachers. For each science topic investigated, they developed a resource folio consisting of a content representation and what they termed as the pedagogical and professional experience repertoire. The content representation has elements similar to Shulman's categories, for example, knowledge of the main ideas of the content of a topic, teaching strategies, and knowledge about students. This representation is connected to a set of narratives describing a number of teachers' experiences in teaching the topic. This preserves the general event-based as well as the story-based aspects of pedagogical constructions pointed out by Hashweh.

Ball and her colleagues took a different route in investigating the nature of PCK. Paying closer attention to Shulman's categorization of PCK as a subcategory of teacher knowledge in his 1986 article, and less attention to the topic specificity of PCK, the group identified "pure" subject matter knowledge in mathematics that is exclusive to the teaching of school mathematics. Taking a third route, other researchers, including Baument and colleagues, investigated the effect of well-developed teacher PCK on student achievement. This endeavor is needed since the construct has tended to rely more on normative, rather than empirical, support. Additionally, it addresses the need to study teacher knowledge in relation to student learning outcomes; that is, it constitutes a return to the process–product paradigm in research on teaching, albeit with a more sophisticated approach that takes into consideration teacher and student cognition, on the one hand, and the domain specificity of teaching, on the other. Though different from the previous conceptualization of PCK described earlier, these works continue the theoretical development, analytic clarification, and empirical testing of the construct that have taken place in the past decade. Judging by the voluminous research it has initiated, the refinement of the concept and the ensuing empirical outcomes, and its impact on educational policy and practice, the PCK construct continues to support progressive research programs in Imre Lakatos's sense of the term.

Maher Hashweh

See also Behaviorism; Epistemologies, Teacher and Student; Reflective Practice: Donald Schön; Social Constructionism; Teaching, Concept and Models of

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Perfectionism

See Cavell, Stanley

Pestalozzi, Johann H.

Johann Heinrich Pestalozzi (1746–1827) was a Swiss educator whose philosophy of education was based on the premise that learning occurs most effectively in an emotionally secure environment where knowledge is acquired by sensory perception. Influenced by Jean-Jacques Rousseau's beliefs regarding the inherent goodness of children and their need to develop freely, Pestalozzi introduced psychology into education and was the first to systematize the science of teaching. Though known predominantly for the object lesson, Pestalozzianism led to the transformational reform of elementary schools and ushered in the teacher licensure movement.

Following Rousseau's example of employing fictional narrative to convey a philosophical treatise, Pestalozzi wrote the novel *Leonard and Gertrude*, which emphasized the role of mothers in education and the original goodness of human nature. Although drawing heavily on Rousseauian principles, Pestalozzi's writings displayed three noteworthy differences. First, Pestalozzi did not support the glorification of nature as a utopia. He observed that nature can often be brutish, necessitating intentionality, especially in the moral instruction of children. Second, he was concerned about the education of the poor, while Rousseau did not see such a need. Third, he applied theory to practice, whereas Rousseau's ideology remained chiefly abstract. Unlike Rousseau, who relinquished his children to an orphanage, Pestalozzi educated his own son, implementing principles from *Émile*. Through application, Pestalozzi tempered Rousseau's ideas while refining his own practice.

As he gained recognition for his writings, Pestalozzi also became identified as sympathizing with the French Revolution. He became convinced that the French regime could bring about moral regeneration and social reform. With funds from the French-controlled Swiss government, an orphan asylum was opened in Stans, Switzerland, with Pestalozzi as headmaster and sole teacher. The locals, who were predominantly Catholic, expressed hostility to the Protestant Pestalozzi and were resentful of his ties to the French government. Despite its difficulties, however, Stans earned the reputation of being "The Cradle of the Modern Elementary School."

At Stans, the theories in Pestalozzi's writings were first implemented systematically. Even with 80 students and only one assistant, an atmosphere of familial love was cultivated. No books were used, as instruction was based on sense impression. Rather than traditional recitation of meaningless words, Pestalozzi's goal was to develop the students' powers of attentiveness, carefulness, and reliability. He viewed the strengthening of these skills at a young age as much more significant for later learning than what typically occurred in traditional classrooms. He refused to operate Stans on the broadly held assumptions that the purpose of school was to teach the written word, that children were innately bad and should be punished for not meeting academic expectations, and that education was not essential for the poor. After only five months, this successful experiment ended abruptly when French soldiers retreating from Austria sequestered the facility to establish a hospital.

Shortly thereafter, Pestalozzi moved to the Burgdorf castle, where he began to fuse psychology and education and where he developed the first teachers' college. Using the German word *Anschauung* to refer to the acquisition of knowledge, he taught that no words should be used for instruction until after students had engaged in a process of sense impression. Inadequately translated as intuition, observation, sense experience, perception, or contemplation, *Anschauung* was defined by Pestalozzi as "things before words, concrete before abstract." This concept served as the framework for what popularly became known as the object lesson.

Students at Burgdorf engaged in field trips to the countryside, woods, or seashore, where they collected specimens for object lessons. They closely examined the items, drawing and talking about their observations. They were then instructed to write about their objects and to read to others what they had written. Only after a process involving such concrete observations were teachers permitted to introduce vocabulary or concepts previously unfamiliar to the students. In addition to advancing the object lesson at Burgdorf, Pestalozzi refined and promoted methods such as movable letters, tactile

arithmetic aids, slates, oral group answers, increased student–teacher interaction, and physical education.

Another psychological principle Pestalozzi advocated at Burgdorf was the need for balanced instruction in intellectual, moral, and physical development. Harmony among these powers was essential for proper growth; this view led Pestalozzi to include innovative activities, such as drawing, singing, and physical exercise. Also radical for his time was the notion of the affective pedagogical element, that teachers should love their students. He identified the following dispositions as essential for effective teachers: fatherliness, cheerfulness, affection, and kindness.

Burgdorf closed down in 1801 due to lack of funds. Though his ineptitude as an administrator led to several schools failing, Pestalozzi continued to gain prominence as an innovative educator, especially during his 20-year tenure at Yverdon. Among the international visitors to Yverdon were Friedrich Froebel, Johann Herbart, and William Maclure. Through these and many other visitors, Pestalozzianism spread to Germany, the United States, and other countries, influencing the following developments: kindergarten, scientific pedagogy, the New Harmony experiment, the common school movement, the Oswego Movement, and normal school training for teachers.

Critics indicate the enigmatic nature of Pestalozzi's method, arguing that it fragmented the sciences and neglected history and literature. Unfortunately, the object lesson was later so formalized that it became widely misunderstood, no longer representing the theoretical framework of its originator. Nevertheless, Pestalozzi's influence wrought considerable change in the emphasis given to student interest, respect for the child's natural development, and the overall tone of the modern elementary school.

Samuel James Smith

Note: Adapted from Smith, S. (2010). Pestalozzianism. In T. Hunt, J. Carper, T. Lasley, & C. Raisch (Eds.), *Encyclopedia of educational reform and dissent* (pp. 698–700). Thousand Oaks, CA: Sage.

See also Locke, John; Montessori Education; Rousseau, Jean-Jacques

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Peters, R. S.

Richard Stanley Peters (1919–2011) was one of the founding fathers of analytic philosophy of education in the 20th century. By introducing the analytic paradigm, he revolutionized the philosophy of education in postwar Great Britain and the British Commonwealth. Peters made a formidable impact not only on philosophy but also on educational studies. Moreover, his intellectual revolution had institutional as well as political effects in the socioeconomic context of the 1960s. This entry outlines Peters's analytic paradigm for approaching problems and policy in education and perennial questions in the philosophy of education; it first introduces this paradigm and then lays out its major components.

The Analytic Paradigm

The new approach to the philosophy of education that Peters did much to develop in the 1960s and 1970s is the outcome of the application of an analytic type of philosophy to educational issues. There were earlier figures working in this mode, notably the Australian Charles D. Hardie, whose pioneering book *Truth and Fallacy in Educational Theory* had the misfortune of being first published in the early days of World War II and thus drew little attention; and Peters also had a stellar contemporary in the person of Israel Scheffler at Harvard. But there can be no doubt that Peters made significant foundational contributions to the analytic approach.

Peters's new approach—the conceptual analysis of educational issues—differs from three other approaches. First, whereas the "older style" of educational philosophy dealing with the ethical, religious, or spiritual foundations of education is speculative, constructive, and comprehensive, the analytic approach is neutral, piecemeal, and antisynthetic. Second, in contrast to the "historical" conception of philosophy of education as dealing with the history of educational ideas and the past masters of educational thought, the analytic approach is ahistorical

and structural. Third, whereas Peters considered the "applied" approach to the philosophy of education, focusing on the educational implications of pure philosophy, to be overly abstract and not concerned specifically enough with what belongs to the educational domain, the analytic approach is firmly anchored in the concrete problems and actual challenges with which educators are confronted in educational practice and policy.

The sort of analytic philosophy that attracted Peters was not the formalistic positivist type but the British ordinary-language type that relies on the analysis of ordinary concepts and commonsense assumptions. Making explicit the underlying principles of the application of a concept is done by defining it in terms of the logically necessary and/or sufficient conditions for its application. In Peters's view, the point of doing conceptual analysis is that it is a necessary preliminary to answering other, and in his eyes also more important, philosophical questions regarding educational practice and policy, especially questions of justification. Besides being occupied with these moral questions and value judgments, Peters also had a deep interest in the moral development and moral education of children. He studied not only philosophy but also empirical psychology. Summarizing, Peters's analytical paradigm in the philosophy of education comprises three basic questions:

1. What do you mean by "education"? (a question of conceptual analysis)
2. How do you know that education is "worthwhile"? (a question of justification)
3. How do we adequately conceive of "moral development" and "moral education"? (a question of empirical [or quasi-empirical] psychology)

In developing his detailed and comprehensive view to answer these questions, Peters assumes three theoretical points of departure, without himself ever arguing for their validity:

1. The Standard Social Science Model (SSSM)
2. Ludwig Wittgenstein's antiprivate language argument
3. Paul Hirst's forms of knowledge thesis

First, in the "nature/nurture" debate, the SSSM interprets whatever innate equipment infants are born with as highly rudimentary and holds that the mental organization of children is acquired from culture through learning and education. Second, and connectedly, given that a private language is impossible and that thought presupposes a public language, Wittgenstein's argument concludes that the mind has a social nature. Third, Hirst's thesis says that, in contrast to the unifying ideals of mythology, religion, and ideology, the domain of scientific knowledge in Western civilization can be differentiated into a number of logically distinct forms of knowledge, none of which can be reduced to any other.

The Analysis of Education

In his analysis of the concept of education, Peters distinguishes between a generalized and a specific conception of education. On the former conception, education can involve any process of bringing up or child rearing, instructing, and training, whereas on the latter, it is exclusively concerned with processes leading up to "the educated man." Two logically necessary conditions govern the application of the concept of education (in the latter sense): a value condition and a cognitive condition. First, being educated requires being in a worthwhile state. Second, being educated demands having knowledge and understanding, possessing not only a body of knowledge but also an understanding of the principles or "reason why" of things. Against the backdrop of Hirst's forms of knowledge thesis, education rules out narrow specialization—education is of "the whole man." Moreover, education involves the development in some depth of a cognitive perspective with some breadth, such as a perspective having a positive impact on the quality of life as well as being valuable in itself.

Peters arrives at his analysis, as mentioned earlier, by way of an appeal to ordinary language usage. For example, he argues that just as a user of normal English would not say that a prisoner had been *reformed* if she had not changed for the better and was not committed to this new way of life, so a person would normally not be called *educated* unless she had been changed for the better, had now acquired a broad cognitive perspective, and so on. This mode of philosophical argument, however, was not without its critics; the chief issue raised against Peters was that of *whose* usage was being taken as the benchmark here. (The suggestion, of course, was that Peters was adopting the English usage that was normal among only a certain class of English speakers. See Peters, 1973a, chap. 1.)

To return to the main exposition, it is clear that in light of the SSSM, Peters conceives of education as an initiation into a worthwhile form of life—as getting the barbarians outside the gates and our children inside the citadel of civilization. The repositories of the differentiated forms of knowledge and understanding in Western civilization are the sciences. The several scientific traditions transmitted by a public language represent a vast shared inheritance. Peters identifies the humanities as the most important human heritage to deal with the human condition and life's predicaments in the search for a higher quality of life. The role of the teacher in the initiation of children into this cultural heritage is, according to Peters, pivotal and can in no way be downgraded. If culture precedes the individual persons and is external to them, then the educational process is fundamentally driven by an initiator already in possession of culture. In this complex process, the effective cause is the teacher, who antecedently possesses a body of knowledge and who is thereby authoritatively qualified with respect to it. Teachers, therefore, have an essential task, even a "sacred mission." Education, then, is a process of authoritative transmission of a shared heritage from "masters" to "novices."

Three salient characteristics of Peters's analysis of education should be noted. First, although the development of some skills (even for playing games or music) and some competences (e.g., an engineering or tool-making competence) can be intrinsically worthwhile, purely vocational training has no, or not much, educational value. Second, the educational aims of child-centered education—such as autonomy, critical thinking, and creativeness—arguably are in tension with Peters's analysis of education as an initiation into public forms of knowledge and understanding. Child development or "growth," and relatedly the "nature" or "self" of the child, cannot be separated from the constitutive power of education as initiation. Third, Peters sometimes equates the concept of education (in its specific sense) with that of liberal education. Although this concept is beset by ambiguities and dilemmas, it perfectly captures Peters's "liberal traditionalism" in the philosophy of education because liberal education is, besides being traditional, incompatible with authoritarianism and dogmatism.

The Justification of Education

When it comes to educating our children, we believe that some goals are worthy of pursuit whereas others are not, and that some goals are more worthy of pursuit than others. What are these values that are specific to being educated, and what sort of justification can be given for them? Against the backdrop of Peters's analysis of education above, this justificatory question boils down to the following one: How do we know that education—the initiation into a cultural heritage of knowledge and understanding and the transmission of a noninstrumental cognitive perspective on life with sufficient breadth and depth—is "worthwhile"?

It is hardly controversial that knowledge, skill, and understanding are instrumentally valuable in our present-day technological and democratic society. To tackle the real issue about the intrinsic value of education, Peters distinguishes between a hedonistic and a nonhedonistic type of noninstrumental justification. The first, or hedonistic, type is connected with the "absence of boredom," absorption, enjoyment, pleasure, and satisfaction, while the second, the nonhedonistic type, is connected with ultimate value and "the values of reason." Although Peters does not deny the hedonistic value of education, he focuses first and foremost on the fundamental question: Why are knowledge and understanding intrinsically valuable in the ultimate sense? Peters thought that a Kantian transcendental approach is the only viable argumentative strategy to deal with this ultimate justificatory issue.

Here follows a succinct reconstruction of Peters's transcendental argument.

1. *The question:* Why is knowledge (and understanding) intrinsically valuable?
2. *The task:* Give reasons, or a justification, for the intrinsic value of knowledge.

Clearly, (1) and (2) are equivalent, because asking a why-question precisely is an invitation to give reasons or a justification as an answer. To intelligently fulfill the task (2), one needs to ask a further question.

3. *Further question:* What does it mean to give a justification?

To answer this question, Peters invokes the Kantian "transcendental deduction":

i. Justification (reason-giving activity) exists.
ii. Justification would not be possible if we did not think that we have a concern for truth and forms of knowledge.

iii. So it is necessary that we think that we have a concern for truth and forms of knowledge—for "knowledge."
iv. And so it is true that we have a concern for knowledge.

From this deduction, Peters then concludes as follows:

4. *The answer:* To give a justification means to have a concern for, and thus to ascribe intrinsic value to, knowledge.

So asking the question (1) about the intrinsic value of knowledge, which is a justificatory question, logically leads to the answer (4) that one cannot but ascribe intrinsic value to knowledge. If one raises the question about knowledge's value, then, in intelligently raising this question, one already presupposes knowledge's value.

Peters's transcendental argument is based on the further assumption that justification itself is intrinsically valuable. *Only if* justification is intrinsically valuable are truth, knowledge, and understanding intrinsically valuable as well. As to the further justification of this assumption, Peters answers that human beings are creatures who live under "the demands of reason." The demand for justification is not optional for us. As rational animals, humans must engage themselves in reason-giving activity. So, given that justification is part and parcel of human life, one cannot but attribute intrinsic value to justification, on pain of arbitrariness or even inconsistency.

Some critics hold that Peters's transcendental argument for the justification of education is question begging or, at best, only an unconvincing ad hominem argument; others despair of ever giving an adequate justification and acquiesce in just historically explaining why education is worthwhile, if at all. However, whether or not Peters's specific Kantian strategy fails in the end, the general justificatory project must be taken up in any serious philosophy of education.

Moral Development and Education

Peters elaborates his approach to moral education in a critical dialectic with Lawrence Kohlberg's cognitive theory of moral development. According to this theory, moral competence is neither the internalized product of socialization nor the effect of genetically guided maturation, but it has to be actively constructed by the mind in a relationship with its social environment. However, in light of his adherence to the SSSM, Peters appreciates much more than Kohlberg the constitutive role of socialization and internalization in the acquisition of moral competence. He emphasizes that Kohlberg's constructivist theory needs supplementation with other theories of moral education, among which are Skinnerian behaviorism and social learning theory. Moreover, cognitive-developmental psychology is, according to Peters, too one-dimensional in its narrow focus on the cognitive aspect of moral education. It needs, therefore, to be supplemented by an account of the affective aspect of moral development. So the overall picture that Peters offers us is an original comprehensive theory of moral education that tries to do justice to the several facets of our complex moral life.

Against the background of his ethical pluralism, Peters supplements Kohlberg's stage theory of moral development with three additional constitutive factors of moral education. First, against Kohlberg's dismissive attitude toward instilling "a bag of virtues," Peters argues for the central importance of a code-encased morality in moral teaching. As a corollary, he defends the view that not only reason but also habit is crucial in moral education—children must enter the palace of Reason through the courtyard of Habit and Tradition. Peters connects the Aristotelian idea of moral education by habituation with the Skinnerian idea of moral training by operant conditioning. The educational environment in the moral development of children functions, according to Peters, not only as a contributory cause, in line with Kohlberg's constructivism, but also as a constitutive cause, in accord with social learning theory. Second, and connectedly, what Peters views as Kohlberg's very narrow conception of teaching (conceived primarily as direct instruction) should be supplanted by a broader one to make plausible the claim that moral development essentially involves some process of teaching. On such an unrestricted concept of teaching, the classical Socratic question—Can virtue be taught?—will get a positive answer. Third, the development of moral competence essentially comprises an affective aspect in addition to a cognitive aspect. Besides reason, we also need compassion in educated people, and even reason cannot function on its own without rational passions that provide the motivation to apply rational principles and to support practical reasons. The education of the passions or emotions is, therefore, part and parcel of moral education.

In Kohlberg's stage theory, moral development culminates in an autonomous stage at the postconventional level. Although Peters agrees with Kohlberg's view that the culmination point of moral education is the rational autonomous person acting on a principled morality, his conception of autonomy is never an absolute one, not even at the postconventional level. Peters, as a moderate liberal, keeps at bay extreme and less intelligible versions of individualism. Autonomy, according to Peters, is a midway attitude between the two extremes of slavishly reproducing authorities and originally creating oneself. As an ideal of character, autonomy cannot be realized unless the child has first been initiated into the framework of worthwhile activities, which constitutes our shared inheritance. Autonomous choice only makes sense on the condition that a perspective on the human condition, canonically enshrined in the humanities, informs it. After being sufficiently initiated into the human heritage, one does not have to rely on authorities in the moral and existential domains to make something of one's own life. At least with regard to the human condition and life's predicaments—basic features of any moral life—one can develop some view of one's own.

Stefaan E. Cuypers

See also Education, Concept of; Education, Transcendental Justification of; Knowledge, Structure of: From Aristotle to Bruner and Hirst; Moral Development: Lawrence Kohlberg and Carol Gilligan; Scheffler, Israel; Wittgenstein, Ludwig

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Phenomenological Pedagogy

In Continental educational discourse, the concept of pedagogy is paired with that of didactics; just as in North America, the concepts of curriculum and instruction tend to be linked. From approximately 1910 to the late 1950s in Germany and from the end of World War II to the mid-1960s in the Netherlands and Scandinavian countries, several generations of educational scholars participated in an emerging form of inquiry and thinking that became known as *Geisteswissenschaftliche Pädagogik*, commonly translated as "human science pedagogy." Phenomenological pedagogy is a form of human science pedagogy that aims to start from a presupposition-less experiential perspective. Phenomenological pedagogy asks, "How are we to act and live with children, helping them create their human capabilities while realizing that we are apt to do harm?" It reflects phenomenologically on the meaning of pedagogy and, through situation analysis, tries to understand the world of the child as it is experienced by the child. Phenomenological pedagogy claims that one must begin from the phenomenon of pedagogy itself, as it is experienced, rather than from certain philosophical or theoretical concepts or preconceived educational ideas and ideals that would predispose one to see the challenge of bringing up and educating children and young people in foreclosed ways. This does not mean that one can free oneself from one's cultural and historical context, but it does mean that one can orient to the way in which the pedagogical context is experienced in the here and now.

Origins

The first proponents of the human science tradition in education included Wilhelm Dilthey, Herman Nohl, Wilhelm Flitner, Josef Derbolav, and Theodor Ballauff. The theoretical corpus of this group became known as the Dilthey-Nohl school and was

primarily oriented to explicating the meaning of pedagogy in human life. Pedagogy was approached on the basis of two modes of manifestation: (1) pedagogy as a primordial human phenomenon and (2) pedagogy as a cultural phenomenon.

Interest in human science pedagogy was especially motivated by the desire to be freed from the normative constraints exerted by old pedagogies. In the 18th and 19th centuries, the education and upbringing of children were strongly influenced by the norms and values of the church (Catholicism and Protestantism), denominational belief systems, and class-driven ideas. With the emergence of the human sciences (*Geisteswissenschaften*), the taken-for-granted beliefs and practices of historical pedagogies were increasingly questioned and philosophically interrogated. In this critical context, phenomenology and hermeneutics became strong philosophical platforms for attempts to develop new approaches to pedagogy emancipated from the normativities and habituated presumptions and prejudices of the social and ideological milieus in which they operated.

Dilthey argued that the study of pedagogy must start with an explication of the pedagogical relation between child and adult. Nohl was largely responsible for working out a pedagogical philosophy on the basis of Diltheyan starting points and formulations. Like many of his colleagues, Nohl taught a portfolio of philosophy, pedagogy, and ethics. An early phenomenological theme in Nohl's approach was to place the phenomenon of bringing up and educating children squarely in the lifeworld of everyday thinking and acting. He resisted the common inclination to derive insights into the practice of pedagogy from theory. In keeping with Dilthey's distinction between explanation and understanding in the human sciences, Nohl resisted using objectifying and natural scientific approaches to pedagogical questions. He was keen to relate pedagogy to emancipatory cultural developments in the service of the educated person, for which the Germans used the term *Bildung*. Nohl described the pedagogical relationship between adult and child as an intensely experienced one, characterized by three aspects. First, the pedagogical relation is highly personal, animated by a special quality that spontaneously emerges between adult and child and that can be neither managed or trained nor reduced to any other human interaction (e.g., friendship, being a buddy, etc.). Second, the pedagogical relation is an intentional relation, wherein the pedagogue is always oriented in a double direction: (1) caring for a child as he or she is at present and (2) caring for a child for what he or she may become. Third, the pedagogical relation is an interpretive one. The educator must constantly be able to interpret and understand the present unique situation and experiences of the child and anticipate the moments when the child in fuller self-responsibility can increasingly and meaningfully participate in the culture. This notion of the pedagogical relation between child and adult has become a central theme in the subsequent development of the field of phenomenological pedagogy.

Friedrich Schleiermacher pointed at two grounding antinomies of pedagogy: (1) the polarity of individual versus social or universal ends of pedagogical action and (2) the duality of the positive and the negative, the good and the bad, in the process of encouraging, stimulating, restraining, and disciplining the child. These distinctions gave rise to Theodor Litt's (1949) *Führen oder Wachsenlassen* (*Giving Guidance or Letting Be*), which discusses the dialectic of giving active direction to a child's life while being sensitive to the requirements of letting go or holding back. Human science pedagogy became characterized by a continual reflection on welding together such antinomies—the ideal versus the real, freedom versus control, dependence versus independence—to expose the need to come to terms with paradoxical polarities in everyday life situations, especially at the level of values and pedagogical thought.

The Nature of the Pedagogical Lifeworld

Concretely put, the pedagogical lifeworld is full of tensions and contradictions. The child wants to do something himself or herself, but the parent feels responsible to assist or restrain the child in order to avoid a dangerous or undesirable situation. A new parent or teacher vows never to say no to a child but finds it impossible to live up to the determination. One struggles with the tension between what one would like to be (able to do) and what one is (capable of) at present. Supper is on the table, but the child would rather eat junk food; the child wants a Facebook account, but the parent worries that she is not yet old enough. These are examples of the endless contradictions, conflicts, polarities, tensions, oppositions, and so forth that structure the reality of the pedagogical lifeworld. Most parents or teachers know by experience the challenges that these antinomies pose to everyday practical acting and

living with children. For Litt, no theory of pedagogy can be satisfying if it does not address the inherent antinomies of daily life.

A more quotidian articulation of the human science pedagogy occurred in the approach to pedagogy of Martinus Jan Langeveld, Otto Friedrich Bollnow, Klaus Mollenhauer, Nicolaas Beets, and Ton Beekman. In fact, it may be argued that "phenomenological pedagogy" proper only truly began with the work of Langeveld, though his work was clearly rooted in the *Geisteswissenschaftliche* pedagogy of his predecessors. Like some of his contemporaries, Langeveld studied with Theodor Litt, and he followed lectures with Edmund Husserl and Martin Heidegger. Other philosophical influences in the development of phenomenological pedagogy include phenomenologists such as Jean-Paul Sartre, Emmanuel Levinas, Georges Gusdorf, Helmuth Plessner, and Maurice Merleau-Ponty. In Langeveld's widely read book *Beknopte Theoretische Pedagogiek* (*Concise Theoretical Pedagogy*), he shows the need to grasp the meaning of the lifeworld of the child, not only from a hermeneutic ontological perspective but also from the point of view of the child. The center of pedagogical interest must reside in a sensitive grasp of *meaning as lived and experienced by the child*. Langeveld suggested further that to come to an understanding of what is good for the child, what is educationally desirable, we must first be able to listen to the child in a manner that respects the child's subjectivity—the way the child experiences and perceives things.

The question of the lived meaning of the pedagogical relation, the focus on the lifeworld, the recognition of paradoxical antinomies in everyday pedagogical situations, and the primacy of practice over theorizing may all be regarded as themes of phenomenological pedagogy. Langeveld posited the primacy of normative or ethical thought in phenomenological reflection about our living with children. He set out to show that the pedagogical situation in everyday life is from the very beginning ethical, finding its origin in the relation of parent and child or teacher and student. Pedagogy does not just want to know how things *are*; pedagogical inquiry always has an inherent practical intent because, sooner or later, this knowledge figures in how one must *act*. So for phenomenological pedagogy, the issue of the place and meaning of phenomenological inquiry is primarily a function of how one stands and acts in the world. Langeveld proclaimed that he was not interested in the philosophical intricacies of phenomenology but only in its method.

Pedagogy and Phenomenological Method

The method implicit in the writings and work of scholars like Langeveld, Beets, Bollnow, and van den Berg is characterized by two things. First, phenomenological method consists of reflecting on the fundamental aspects of pedagogy as a unique and autonomous phenomenon; essential themes of pedagogy are aspects such as pedagogical responsibility (Langeveld), pedagogical authority (Arendt), the pedagogical atmosphere (Bollnow), pedagogical diagnosis (Beets), and the pedagogical relation (Spiecker). Second, phenomenological method consists of situation analysis of specific lifeworld phenomena in the lives of children or young people and adults; topics included the experience of the secret place (Langeveld), the child's experience of things (Langeveld), the experience of play (Vermeer), the time at school (Langeveld), and street life (Beets).

Phenomenological pedagogy is an ethical-normative practice because it distinguishes between what is good and what is not good for a child. Langeveld often repeated that there exists no closed or universally acceptable rational system to tell us how we should behave with children in our everyday actions and how we should rationally justify our pedagogical approaches and methods. What is reasonable to one person may appear unreasonable to another. Instead, Langeveld sought to locate phenomenologically the norms of pedagogical action in the concrete experiences of everyday living with children around the home and at school.

Pedagogy is what happens in the interaction between the adult and the child, providing the interaction is based on a pedagogical intent. And yet there is a difference between acting and reflecting. The pedagogue needs theoretical and historical understanding, since it is important to know that the educational problems we face are typical of our time and that pedagogical concerns change over time. For example, how should we understand the responsibility of children for their actions? Langeveld held that it is precisely children, or the young in general, who cannot be held responsible. They did not ask for their lives; they live initially in complete dependency. And even adults do not always appear to be able to carry the full load of the consequences of their responsibility personally.

On the one hand, the aim of pedagogy is to help young people assume independence and personal responsibility as mature adults; however, we know that even adults will never be totally independent and self-responsible. Therefore, Langeveld says that the aim of pedagogy is not just independence or self-reliance but taking and bearing complete responsibility, yet without being able to carry it individually. Obviously, some of these phenomenological reflections are open to ongoing discussion as times change, and they must be situated in a systematic understanding of historical and theoretical literature. Philosophical reflection forces one to be accountable, subjects one's views and actions to criticism and discussion by others, and thus leads to new perspectives and self-understandings.

Therefore, to study pedagogy is to change one's self. Parents and teachers know this all too well. Once children have entered one's life, one changes in ways that may be difficult to explicate and yet are unmistakable. The question is how one can identify and "form" oneself in the everyday experience of the pedagogical encounter: in other words, in the life of the child. But this is only possible if one does not lose oneself in this identification but, in spite of and even thanks to this identification, remains oneself and at the same time empathically lives in the situation of the other—the child. To not lose oneself, two things are necessary according to Langeveld: (1) one must know who one is and (2) one must become aware of the complex values and forms of knowledge that ultimately reflect, shape, and orient one's life and give meaning to one's own experiences.

Recent Developments

More recently, human science has been revived and given new methodological directions—such as, among others, studies of the pedagogy of media and technology and their impacts on the pedagogical relation in classrooms and other educational settings (Adams, 2006, 2012); the orthopedagogy of seeing the abilities and disabilities of children pedagogically (Saevi, 2005) and addressing all those concerned with a problematic education situation rather than focusing on the child alone; and the phenomenological pedagogical studies of parents' ethical experiences of their newborn infants in the context of the pedagogy of technology in neonatal care (van Manen, 2012).

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See also Arendt, Hannah; *Bildung*; Heidegger, Martin; Hermeneutics; Phenomenology; Sartre, Jean-Paul; Schleiermacher, Friedrich

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Phenomenology

Phenomenology is the name for the major philosophical orientation in continental Europe in the 20th and 21st centuries. Phenomenology is not a substantive discipline, such as psychology, biology, or sociology; rather, it is the study or inquiry into how things appear, are given, or present themselves to us in prereflective or lived experience. In this sense, phenomenology is primarily a method. It is often called a hermeneutic phenomenological method of reflecting on experience while abstaining from theoretical, polemical, suppositional, and emotional intoxications. *Hermeneutic* means that reflecting on experience must aim for interpretive language and sensitive linguistic devices that make the phenomenological analysis, explication, and description of lived meaning possible. This entry begins with a brief overview of the questions and challenges at the core of phenomenology and the contributions of important figures in phenomenology over the past century. It goes on to describe the five main approaches to phenomenological reflection and the rootedness of such reflection in lived experience. An exploration of phenomenology's specific forms of engagement with education and educational theory follows, and the entry concludes with a discussion of the various ways in which the phenomenological approach has been adapted within the framework of the human sciences generally.

In the past 100 years, scores of philosophers and human science scholars (to name a few, Edith Stein, Jan Patočka, Emmanuel Levinas, Maurice Merleau-Ponty, Maurice Blanchot, Jacques Derrida, Jean-Luc Nancy, Bernard Stiegler, Jean-Luc Marion, and Jennifer Anna Gosetti-Ferencei) have been inspired to take up the phenomenological challenge of exploring where and how meaning originates, what it means to understand something, and how self and other are implicated in the ethics of presence and otherness, being and alterity (otherness of the other). In the context of the long and complex philosophical tradition of phenomenology, it should be obvious that there are various intricate descriptive and interpretative elements at work in phenomenological inquiry. Phenomenology is, in some sense, always descriptive and interpretive, linguistic and hermeneutic.

Although there are certain precursors to philosophical phenomenology, such as Immanuel Kant, Friedrich Nietzsche, and Georg W. F. Hegel, it is generally agreed that the founding figure of phenomenology is Edmund Husserl. His aim was to find a method for arriving at indubitable knowledge that could serve to establish a firm epistemological basis for the sciences. Husserl believed that it is possible to grasp and describe the essential meanings of intended objects as they appear in consciousness; the proper focus of phenomenology is on the way objects appear or give themselves—their transcendence. The second major figure in the development of phenomenology was Husserl's student Martin Heidegger, who argued that the attempt to formulate indubitable knowledge was too presumptuous, since the meaning of objects as experienced is ultimately as elusive as the temporality of experience as lived. The "I" of the living present always dissolves under the objectifying and subjugating gaze of the "I" of the reflective self. Heidegger radicalized Husserl's phenomenology by pointing out that the proper focus of phenomenology is not epistemological but ontological. To ask how a phenomenon appears in consciousness is already to assume an abstraction, namely, the idea of consciousness itself. Heidegger argued that phenomenology must aim for

the more fundamental concrete or existential question of how meaning comes to be. The reflective understanding of experience becomes an ontological project: exploring the Being (ontological meaning) of the being of things. Ontology is concerned with phenomena as modes of being in the world.

Every mode of being-in-the-world is a way of understanding that world. Phenomenology gradually grew into a living tradition that soon sprouted into a variety of distinguishable orientations. A living tradition is a tradition that constantly reinvents itself. So perhaps, it is even more appropriate to regard phenomenology as a tradition of traditions.

Phenomenological Reflection

There are various ways in which phenomenological reflection may be understood, depending on its presuppositions and its practice. Here follow some distinctions:

1. Husserlian phenomenology tends to be understood as the epistemological process of eidetic analysis: exploring the *eidos* or essence of what appears in consciousness and how it appears or "gives" itself. Husserl contrasted two modes of givenness of an object in experience: (1) the object as experienced in external perception, such as my house as seen from where I stand, and (2) the object as experienced in internal perception, such as my house as I nostalgically remember it while traveling. The house as perceived from external perception is always seen only from a certain vantage point. It is impossible to see the house in its totality from all possible points of view. And yet the house as object given in internal perception transcends the house that I perceive while standing in front of it. In other words, the house as an object of lived experience is given in its essence. When I think of my house, I don't just think of it as perceived from the front, the side, the back, or some other vantage point. Rather, I "see" the house as intuitively given as a house, in all its many exterior and interior aspects, meanings, and significations. Phenomenology as transcendental reflection goes beyond the object as naively seen through empirical perception. Husserl is especially concerned with how we come to know what appears in consciousness as living experience. This reflective understanding of experience is an epistemological project: determining how to gain clarity with respect to the phenomena of our world.

2. With Heidegger, the notion of reflection problematizes the ultimate irreducibility and fundamental concealment of the meaning of experience and the "I" or the self. Experience is meaningful in the sense that it is so full with meaning that it cannot be completely fathomed. The living meaning of something cannot just be grasped in its essence. The understanding of experience becomes an ontological project: exploring the Being (ontology) of the being of things. Phenomenology as ontology is concerned with phenomenological understanding as modes of being-in-the-world. All modes of being-in-the-world are ways of understanding the world. These two epistemological (Husserlian) and ontological (Heideggerian) impulses can be traced throughout the many writings of phenomenological scholars.

3. Husserl's consciousness epistemology and Heidegger's formal ontology have both been challenged from the more down-to-earth reflective perspectives emerging from corporeal, quotidian, and existential reflections, for example, by Patočka, Merleau-Ponty, and Sartre. The latter argued that Husserl and Heidegger remained too aloof and cut off from the mundane everyday realities of life.

4. In addition, the transcendental, ontological, and existential phenomenologies of Husserl, Heidegger, Sartre, and others have been recalibrated to focus away from *eidos* and essence toward what is "other," as exemplified in the work of Emmanuel Levinas, Alphonso Lingis, and Bernhard Waldenfels. Phenomenological reflection guided by alterity is concerned with ethics and the realization that the other cannot be reduced to the self.

5. For still others, such as Jacques Derrida, Jean-Luc Nancy, and Jean-Luc Marion, the reflective meaning of phenomena and the sense of the world coincide with the enigma of singularity, self-givenness, and the originary. They point out that phenomenological reflection paradoxically deflects clarity about the world as we see it, touch it, and are touched by it. For example, Marion suggests that some phenomena, such as the event, sacrifice, and love, are so saturated with meaning that it is impossible to come to an eidetic understanding of them. So a third kind of reflection is required that purely orients to the self-givenness of what gives itself.

6. Still other ways in which phenomenological reflection may be understood are evident in the material phenomenology, and technogenetic perspectives, of thinkers as different as Hubert Dreyfus and Bernard Stiegler.

Lived Experience

Broadly speaking, what the above varieties of phenomenological reflection have in common is that each involves reflection on prereflective experience or the lived "now." Lived experience may be considered the starting point and end point of phenomenological research. It may be argued that many other qualitative research approaches also take human experience as the main epistemological source. This is true. But for phenomenology, the concept of "lived experience" (*Erlebnis*) possesses special philosophical and methodological significance. The notion of lived experience announces the intent to explore *directly* the originary or prereflective dimensions of human existence. Husserl used the term *prepredicative experience* to refer to experience before it has been thematized and named. It is important to dwell on the question of the meaning of lived experience because an understanding of the sometimes enigmatic nature of the notion of lived experience allows adoption of a proper phenomenological perspectival attitude, necessary for doing phenomenological inquiry. The focus on "lived experience" means that phenomenology is interested in recovering somehow the living moment of the "now" or existence—even before we put language to it or describe it in words. But what is this "now"? In keeping with the method of phenomenological research, the researcher is directed toward exploring a recognizable human experience (phenomenon) as it is lived through, rather than how we conceptualize, theorize, or reflect on it.

We may wonder what happens in the fleeting moment of casting a glance at someone or how we experience being seen by someone. Or we may wonder how human beings experience a digitally mediated world now, as compared with the way humans experienced their world in the industrial age or in ancient times. And what "is" it when we study the glance or technology?

Phenomenology tries to show how our words, concepts, and theories inevitably shape and give structure to our experiences as we live them. For example, it is one thing to get lost in a novel, but it is another to retrospectively capture what happened to us, just now, as we slipped into the textual space and began to dwell in the story. Similarly, health science professionals identify, categorize, and rate with empirical descriptors the nature and intensity of various forms of pain. But the actual moment of suddenly being struck by pain or the condition of suffering a chronic pain somehow seems to be beyond words. On the one hand, medical science is able to draw a diagnostic profile of clinical conditions, such as obsessive-compulsive disorder. On the other hand, it is difficult to capture in language what an actual moment of obsessive compulsive thought or behavior consists in: this strange moment of compulsively and simultaneously wanting and not wanting to think or do something. Similarly, as teachers or as parents, we talk about our children learning, and yet do we really know what happens experientially, in that living moment of learning something?

Phenomenology in Education

In the history of education, phenomenology has made appearances as a philosophy of education, as an approach to professional practice, as an approach taken up by curriculum scholars, as philosophical reflections on education, and as a human science research method. These five appearances of phenomenology in education will be briefly characterized below, followed by some further reflections on the nature of phenomenology as a human science method.

Phenomenology as a Philosophy of Education

Phenomenology as a philosophy of education became prominent with authors such as David Denton, Donald Vandenberg, Leroy Troutner, and Maxine Greene during the 1960s and 1970s. David Denton was inspired by Martin Heidegger's ontological phenomenology. His essay "That Mode of Being Called Teaching" is an example of his meditative reflection on teaching as a way of being-in-the-world. Denton attempted to clarify the reality of education by means of existential analysis of themes such as temporality and embodied-being-in-situation. Denton criticized functional explanations of educational phenomena and argued that understanding requires hermeneutical interpretation and attention to mythology. He responded to the call to teach as a mode of being that is indeed a calling, a vocation.

Donald Vandenberg, who was similarly influenced by his readings of Heidegger, also departed from a philosophy of existential phenomenology. He was especially inspired by the more conceptual and dialogical approach of the Husserlian philosopher Stephen Strasser. Vandenberg attempted to find common ground with conceptual analysis and ordinary language philosophy, which has been dominant in philosophy of education. But he did not reflect on the meaning and use of language in

phenomenological descriptions. Denton criticized Vandenberg's theoretical work for being insensitive to the poetic dimension of language. Phenomenology, in Denton's view, should not be seen as theory development.

Troutner attempted to work out a relation between John Dewey's empirical method and phenomenology. In one of his best-known essays, "Time and Education," Troutner contrasts the usual conception of school time as clock time and objective time with a more Heideggerian sense of temporality. The phenomenology of school time must reflect on the ways children experience and sense time as the ground of personal becoming and as the primordiality of openness to the future. According to Troutner, a phenomenology of school time should be sensitive to the formation of self-identity and the development of personal authenticity.

Perhaps, Maxine Greene, in seven books and numerous articles, presents the most celebrated example of a phenomenological philosophy of education. She declared that she has been deeply influenced by existentialism and especially by the work of Heidegger's student Hannah Arendt. More than any of her colleagues, Greene interlaced her educational reflections with a wealth of references and quotes from novels and other forms of literature and the fine arts. Like Arendtism, the writings of Maxine Greene frequently are inspirited with political activism. She is constantly moved and motivated by the desire to address the injustices inflicted on youth and the needs of children here and abroad. She is extremely well-read and engages deeply and actively with voices such as those of Adrienne Rich, Susan Sontag, John Dewey, and Paulo Freire. Greene's book *Teacher as Stranger* is a plea for personal reflection and for the realization of one's own life projects.

So it appears that the writings of educational philosophers such as Denton, Vandenberg, Troutner, and Greene are inspired by the phenomenologies of thinkers such as Heidegger, Sartre, Merleau-Ponty, Minkowski, and Camus and that they in turn often inspire others to think about teaching. However, in spite of their intent to be relevant to the practice of living, their writings have tended to remain more meditative, abstract, and theoretic than down-to-earth, concrete, and practical.

Phenomenology as an Approach to Professional Practice

Phenomenology as an approach to professional practice is exemplified in the work of the proponents of the Dutch and the German phenomenological approach to pedagogy. A more lifeworld-sensitive approach to the phenomenology of education may be found in the writings of scholars who are not first of all philosophers of education but rather professional practitioners whose writings and thinking aim to understand how children, teachers, and parents actually experience their lived world. For example, Martin Langeveld, Jan Hendrik van den Berg, Nicolaas Beets, Otto Bollnow, and Ton Beekman have engaged in phenomenological situation analysis of specific and relevant experiential phenomena, such as how children experience a secret place, the mood of going to school in the morning, the experience of the first smile in a young child, playing hide-and-seek, and so forth. These scholars were less interested in the formal philosophical discourse of philosophical phenomenology than in exploring everyday meaningful experience from a phenomenological attitude. For example, the psychiatrist van den Berg wrote, among other things, about the changing nature of childhood; the pedagogue-philosopher Bollnow wrote on the pedagogical atmosphere, the pedagogy of trust, confidence, celebration, and so on.

Phenomenology as Taken Up by Curriculum Scholars

Phenomenology as taken up by curriculum scholars includes the work of, for example, Dwayne Huebner, William Pinar, Madeleine Grumet, Ted Aoki, and Philip Jackson. Although philosophy of education and curriculum thinking tend to be regarded as separate disciplines, some of their proponents may be seen to belong to both domains. Curriculum scholars tend to be preoccupied with questions of what is taught, to whom, why, how, and to what end—in schools and classrooms. In his essay "Curriculum as Concern for Man's Temporality," Dwayne Huebner questions the meaning and centrality of the concept of learning, and he uses Heidegger's *Being and Time* to rethink teaching as being and to reflect on curriculum as environmental design. William Pinar and Madeleine Grumet use the method of biography and narrative as a way to interpret curriculum as the journey of one's personal life curriculum. Pinar employs Sartre's notion of method as imaginary, extended reflection and meditation and as a resource for rethinking and reconceptualizing the meaning of curriculum, teaching, and learning processes. Curriculum is commonly regarded as a program of studies, but Ted Aoki draws distinctions between curriculum

as planned and curriculum as lived, thus bringing to the fore the contingent, situated, personal, and dynamic aspects of curriculum as lived and enacted in the classroom and in the relation between student and teacher, student and the instrumental content of teaching. Interestingly, although Philip Jackson does not explicitly identify with phenomenology, his work is perhaps more sensitive to the phenomenological project in his attention to the ways life in classrooms is actually experienced by teachers and students.

Phenomenology as Reflection by Philosophers Outside the Field of Education

Phenomenology as philosophical reflection on education by philosophers outside the field of education is exemplified in the work of Iain Thomson. A phenomenological philosopher, Thomson uses the ontotheology of Heidegger's writings on technology to criticize the administrative and policy developments in education. He points out how our technological understanding of being produces a calculative mentality that tends to quantify all qualitative relations, reducing entities to binary, programmable information. There is a certain irony in the fact that even the increasing popularity of qualitative inquiry in education has not prevented educational practice from cementing ever more firmly into preoccupations with calculative policies and technological solutions regarding the productivity of learning outcomes, the accountability of standards of practice, the measurement of educational effectiveness in terms of school ranking, the codification of ethics governing programs of research and teaching, and so forth.

Phenomenology as Educational Research Method

Phenomenology as educational research method is worthy as a separate topic since none of the above educational philosophers, professional practitioners, and curriculum scholars who have associated themselves with the existential phenomenological tradition address the topic of how phenomenological reflection is done and how phenomenology can be approached as a research method. This problematic is presented by authors such as Amedeo Giorgi, whose Husserlian psychological phenomenological method has been adopted by many researchers in education, and by Max van Manen, who offers a method that is less procedurally driven but grounded in the rich philosophical phenomenological tradition.

Phenomenology as research method includes the following methodical features:

a. Phenomenological research begins with wonder at what gives itself and how something gives itself.
b. A phenomenological question explores what is given in moments of prereflective, prepredicative, or lived experience.
c. Phenomenology aims to describe the exclusively singular aspects (identity/essence/otherness) of a phenomenon or event.
d. The *epoché* (bracketing) and the reduction proper are the two most critical components of the various forms of reduction—though both are understood differently by different leading phenomenologists. The reduction is not a technical procedure, rule, tactic, strategy, or sequential set of steps that we should apply to the phenomenon that is being researched. Rather, the reduction is an attentive turning to the world when in an open state of mind, effectuated by the *epoché*. It is because of this openness that a phenomenological insight may occur.

Phenomenology and Human Science Methods

As the phenomenological approach was imported into professional disciplines such as psychology, education, pedagogy, nursing, and medicine, its methodological resources started to include research methods and tools that belong to the social sciences. First, it adapted data-gathering methods, and second, it adapted reflective methods and techniques.

Empirical and reflective methods and procedures can assist the practice of doing phenomenology in professional contexts. Empirical methods describe the various kinds of research activities that provide the researcher with experiential material. They include personal descriptions of experiences, gathering written experiences from others, interviewing for experiential accounts, observing experiences, investigating fictional experiences, and exploring imaginal experiences from other aesthetic sources.

Reflective methods describe certain forms of analysis or phenomenological reflection. We may distinguish thematic reflection, guided existential reflection (corporeal, temporal, spatial, material, and relational reflection), collaborative reflection, linguistic reflection, etymological reflection, conceptual reflection, exegetical reflection, and hermeneutic

interview reflection. In any research project, the selection and usage of empirical and reflective methods and procedures depend on the context and the nature of the study. The important point is that these methods and procedures differ from those in other forms of qualitative research.

Systematic "data" gathering through interviews, observations, descriptive accounts, and so on is rarely used in philosophy proper. But in professional fields such as education, experiential accounts or lived experience descriptions may provide the researcher with rich material. The written accounts that people provide of their experience may be highly recognizable. And some of the narrative accounts may be integrated in the phenomenological research text.

The main purpose of the empirical (and exegetical) methods is to explore examples and varieties of lived experiences, especially in the form of anecdotes, narratives, stories, and other lived experience accounts. The lifeworld, the world of lived experience, is both the source and the object of phenomenological research. And so one needs to search everywhere in the lifeworld for lived experience material—through interview, observation, language analysis, and fictional accounts—and one needs to realize, of course, that experiential accounts or lived experience descriptions are never identical to lived experience itself. All recollections of experiences, reflections on experiences, descriptions of experiences, taped interviews about experiences, or transcribed conversations about experiences are already transformations of those experiences. Even life captured directly on magnetic or light-sensitive tape is already transformed at the moment it is captured. Without this dramatic, elusive element of lived meaning to our reflective attention, phenomenology might not be necessary. So the upshot is that the researcher needs to find access to life's living dimensions while hoping that the meanings brought to the surface from the depths of life's oceans have not entirely lost some of the natural quiver of their undisturbed existence, as Merleau-Ponty might say.

As soon as we nod to the inevitable predicament that we can never grasp the present as present, we may also become aware that the matter is even more complex: The movement from the prereflective to the reflective moment exposes a gap. The past is always too late to capture the present as present. Therefore, some phenomenologists say that the past has never been present. The past is always already there. The living moment of the instant is prereflective in the sense that the living and the lived dimensions of "lived experience" are the same, and yet, paradoxically, they do not coincide. Therefore, Levinas spoke enigmatically of a past more ancient than every representable origin. The present is already the past. But the past is a present that never was—never quite like this. Rather than shrug our shoulders and say that phenomenology is simply "impossible," we should actually acknowledge and embrace this "impossibility" as the condition for all true inquiry in the human sciences. This impossibility is what makes phenomenology so compellingly fascinating and ultimately possible. Without the realization that human experience is related to an absent present that can only be accessed through an unrecoverable past, phenomenology would not be what it is: the most radically reflective and most demanding approach to the study of life and education as we experience it.

Michael van Manen and Max van Manen

See also Arendt, Hannah; Beauvoir, Simone de; Buber, Martin; Deconstruction; Dewey, John; Embodiment; Foucault, Michel; Greene, Maxine; Hegel, Georg Wilhelm Friedrich; Heidegger, Martin; Hermeneutics; Nietzsche, Friedrich; Phenomenological Pedagogy; Phenomenology; Sartre, Jean-Paul; Wittgenstein, Ludwig; Young, Iris Marion

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Philosophical Issues in Educational Research: An Overview

The quality of educational research, both *as* research and *as* educational, has been the subject of lively discussion in the Western world for many decades. The issues that have been aired in depth include the appropriate methodologies that should be used; the relative worth of research that provides an in-depth portrait of a particular situation of educational interest versus research that aims to provide findings that are generalizable across many settings and populations; and the relevance of research findings for the formation of educational policy and the training of teachers. Although this entry contains discussions pertinent to these issues, the main point developed is that discussions of educational research too often fail to provide an analysis of what makes it distinctively *educational*. A piece of research that focuses on how to promote learning, or on the impact of schooling on an individual's subsequent earning power, is not necessarily *educational* research. This entry develops the case that, while research having an empirical social science orientation potentially can produce educationally relevant findings, educational research per se must take account of the student's mental life—the values, motives, and understandings that drive his or her actions and decisions. Such research draws on interpretive, qualitative methodologies. Before pursuing this main agenda, however, an important preliminary matter warrants discussion.

How the University Setting Can (Mis)Direct Educational Research: A Cautionary Tale

Although some educational research, and research that is related in some way to education, takes place within institutions outside of universities—in research or policy units attached to government departments of education, for example, or in large semi-independent laboratories (such as those that were established decades ago in the United States)—most research takes place in university settings. In this latter context, severe tensions have arisen, as is illustrated by a notorious example from the United States.

In the late 1970s, the once internationally renowned University of Chicago Department of Education gave up teacher training to concentrate its efforts on the theoretical understanding of education. The big research questions being pursued, and the answers to them, were those to be expected of a university as prestigious as that of Chicago—leaving the practical training of teachers, hopefully enlightened by the discoveries of educational research, to other, less prestigious, institutions. Although practical training, informed by research, is crucial for the development of quality teaching, it is time-consuming, it requires different skills and knowledge from those of research, and, indeed, it might be considered a distraction from the serious business of research. Therefore, the Department of Education abandoned teacher education and training to concentrate on educational research. It joined the Faculty of Social Sciences. However—and here the tension became glaringly apparent—evidently because what passed for educational research did not meet the demanding tests of the University's social scientists and because, on the other hand, the educationists were out of touch with schools (having abandoned teacher training), there was no constituency supporting the work of the department, and so it was allowed to die.

The problem illustrated by this case is complex and grave. At the heart of it is the relationship between universities on the one hand and schools and other educational settings on the other, and the nature of that relationship in terms of research. Should educational research aspire to become a subbranch of the (oft-called ivory tower) social sciences, or should it become the handmaiden of educational practice, using whatever methods are at hand? To make headway with this dilemma, we need to pursue more deeply what we mean by *educational*

research. This philosophical question is explored in this entry.

Research and the Pursuit of Knowledge

Throughout the 20th century, there were many critics of the quality of (putatively) educational research (see Walters, Lareau, & Ranis, 2009) and of its inability to provide guidance for educational practice. It became commonplace, in this context, to contrast educational research unfavorably with medical research. It was the prevalence of such criticism (most notably in the United Kingdom and North America) that led, in the recent past, to a worldwide interest in prevailing models of medical research, in particular that of randomized experimental control trials. (Indeed, it became standard in the closing decades of the 20th century to refer to the randomized controlled experiment as the "gold standard" of research design.) Research done in this mode requires very large samples, strenuous efforts to deflect "threats to validity," systematic reviews of all seemingly relevant research, and the "meta-analysis" of those reviews. Accompanying the ascendance of the gold standard was a growing suspicion of research that used qualitative methods. This research usually focused on particular cases; and because generalization from one case to another would have to ignore the particularities of the case, such research hardly provided a reliable body of knowledge that could serve as a basis for policy or, indeed, for practice.

This emulation of medical research practice led to the establishment of the Campbell Collaboration, an international organization inspired by the work of the Cochrane Collaboration (*in the field of medicine*), that helps policymakers, practitioners, and the public make well-informed decisions about policy interventions "by preparing, maintaining and disseminating systematic reviews of the effectiveness of social and behavioral interventions in *education* [italics added], crime and justice, and social welfare" (Campbell Collaboration, n.d.).

Perhaps, only those who emulate the scientific and medical model of educational research (i.e., the systematic accumulation of a body of general knowledge that can survive empirical testing and that can be widely applied to educational practice) can be seen as genuine researchers. For, the argument runs, reliance on educational interventions require clear evidence that, in this or that circumstance, they will produce the predicted and desired outcomes, and this evidence needs to be scientifically impeccable in order to be the basis of such interventions. Educational theory thereby can easily become a branch of the social sciences, as happened in Chicago.

Skewing the Kind of Knowledge Being Sought

There is a danger of identifying knowledge with what can be expressed sufficiently precisely in propositions that can be empirically verified or that at least have survived rigorous attempts to falsify them. Of course, such propositions need to specify clearly the context and the population to which the conclusions apply—the age of the children, say, and the kind of socioeconomic conditions that prevail. Hence, some conclusions are more universally applicable than others. It is easy, therefore, to see the attraction in the demand, especially from policymakers, for large-scale randomized tests, with their experimental and control groups. After all, as is the case with epidemiological studies, these have led to advances in medical practice. Thereby, one can come to know "what works." The conclusions are sufficiently precise that one knows what further observations would lead either to the confirmation of the conclusion or to its refinement in the light of further evidence. Progress can thus be made in educational understanding; improvement can thereby be made in educational practice—precisely what many have argued has not been achieved.

However, while in general, there is no reason to doubt the value of such empirical social science research, it is important to realize that it by no means exhausts the possibilities for educational research—there are indeed limitations to its educational significance. Indeed, what makes it *educational* research, other than that, together with many kinds of research in the social sciences, it sheds light on the context in which educational aims are being pursued, and on the manner in which they are being pursued? Medical research also sheds light on the capacity of some pupils to learn, but it is not, as such, referred to as *educational* research. Recent work on the brain has relevance to the ways in which learning might be promoted or inhibited, but it is not thereby seen specifically as *educational* research. Where such research is seen to be relevant, it is not therefore transferred to departments of education. It remains within the social sciences or medical faculties, albeit informing the efforts to pursue one's educational aims.

So here we get to the nub of the matter: There are two reasons why the knowledge produced by such research—although often relevant to the educational enterprise—is not, strictly speaking, *educational* knowledge. The first reason is that there is a difference in kind between the knowledge arising from the social sciences and the knowledge that is directly relevant to the education of persons. The second reason lies in the distinction between propositional and practical knowledge—between "knowing that" and "knowing how." These will be discussed in turn.

Education and Knowledge About Persons

We talk of educating *people*, not dogs or donkeys—though, regarding these, we may very well speak of training, that is, changing their behavior through reinforcement. But in *educating* people, we make certain assumptions about what it means to be a person and to be one more fully.

What distinguishes persons, so that the empirical approach of the social sciences has limited application, is that to explain how persons behave requires something different from the application of the lawlike universal or probabilistic generalizations that result (or purportedly result) from studies carried out using "gold standard" research designs. Consider an example that features prominently in the philosophical literature on human action—my raising my hand. An appropriate description of what I am doing would require reference to my intentions, which are not open to direct observation. The hand raised could indicate my seeking attention, stretching to relieve the tiredness in my arms, or signaling to start a revolution. But even when the intention has been deciphered, there may be significantly different understandings of the motive for my acting in the intended way. Seeking attention might be explained by my wish to annoy, by my need to go to the men's room, or by the wish to draw attention to myself. Furthermore, irrespective of intention or motive, my response to a situation is shaped by my understanding (which of course might be a misunderstanding) of the situation that I am in—by the concepts and beliefs through which the events are interpreted. Therefore, to explain human activity requires reference to intentions, motives, and personal understandings of the situation—it is a matter of getting on the inside of another's mind. In short, this type of work must be done using qualitative, interpretive methods, which are often treated with suspicion, if not disdain, by the supporters of randomized controlled experiments.

A further complexity is that one needs to know or to understand the social rules whereby that gesture, signal, or request is to be understood by those to whom it is directed. Each of us lives and works within a social framework of shared symbols, including but going beyond language. This might be referred to as the *culture* of society more generally or of a particular group within the larger society. A gesture or an expression has meaning within a network of social rules. The researcher studying a particular ethnic group, for example, needs to be able to understand what is observed from within the group's distinctive cultural frame of reference.

But it becomes even more complicated when one is trying to understand the interactions between teacher and pupil, or between government pronouncements and teachers' response to those pronouncements. As requirements are passed down and across the many people involved, so the original message is sieved through the prior understandings of the recipients. It is never a straightforward transmission of understanding. Hence, unlike in the physical sciences (and in the social sciences that adopt the same view about the accumulation of knowledge), it is impossible to predict with certainty the consequences of a particular policy intervention, however well-founded in research it may seem. A good example would be government policy and subsequent practice for the raising of standards in schools. Once the learners are aware of the reason for the policy, they are in a position to support or subvert it if they so desire—perhaps they will decide not to work hard simply in order to pass the tests; teachers might decide not to work overtime in order to accomplish the goals that have been proscribed, or perhaps some will be motivated to work harder! Changed consciousness of the learners or teachers, and the subsequent effects, could not be anticipated in the government's policy, however research based that policy was.

Where the interacting elements have different understandings and values, the full impact of such interactions cannot be predicted accurately. They require a more complicated, logically different mode of understanding from that which is required for understanding the physical universe or for understanding social and personal behavior in a scientific and empirical manner that does not take account of meanings, intentions, and cultural contexts. It is unavoidable that educational research must embrace this personal world—the world of human interactions where explanations need to get at the different intentions, motives, social expectations, and

understandings that underpin those behaviors and shape the interactions between pupils and teachers, pupils and pupils, and teachers and teachers.

A word of caution, however, is necessary. As the philosopher Peter Winch argued years ago, the personal differences in understanding and motivation, even where research is conducted into societies very different from one's own, are not as such entirely closed to the possibility of being understood. They are not beyond the penetration of the outsider. For, in spite of those differences, we share a common form of *human* life; we can understand what it means to act out of anger, to feel hurt when insulted, to feel despondent in failure, to seek affection, and to aspire to a more fulfilling life. There is much in our common humanity that enables us to come to understand other people and other social groups from their distinctive perspectives, and thereby to make some generalizations, even if these have to be very tentative.

Education and the Pursuit of What Is Worthwhile

The account so far has drawn a line between educational research in terms of understanding persons (which needs to take into account the distinctive features of what it means to be, and to understand, persons) and the tradition of empirical research that developed in the physical sciences and is followed in much of social science. This latter tradition could not in itself be considered as educational research, though it may say many things that are relevant to educational research and to educational practice.

However, more is needed to explain why the research seeking to explain (and help promote) human behavior should be seen as *educational*. And, of course, the central question here is "what does one mean by saying that a person is *educated*?"

The dominant figure in analytic philosophy of education in the latter half of the 20th century, Richard Peters, in analyzing the concept of education, likened it to the concept of reform (Peters, 1965). To refer to a reformed person is to indicate that the person has changed for the better—it is an evaluative term. The term *education*, is, like *reform*, an evaluative term, even though there is the purely descriptive derivative (as in "where did you receive your education?"). But even in such cases, one might well rejoin, "It was not an education, really—too much learning formulae without understanding." What is evaluative about education is the central aim it possesses, namely, to help people become more fully persons—to develop those distinctively human qualities and capacities that constitute "being a person." Very briefly, these are the capacity to understand the physical and social worlds they inhabit; the practical capabilities by which they can make, create, and act intelligently; the development of moral and aesthetic sensibilities; and the recognition of the need for community and civic responsibility. The teacher's job, in fulfilling that aim, is to draw on that "inheritance of feelings, emotions, images, visions, thoughts, beliefs, ideas, understandings," of which Michael Oakeshott (1967, p. 157) speaks, which are embedded in the different subjects and practices taught in schools, and through which those distinctively human capacities might be developed. To educate, therefore, is to mediate what Oakeshott refers to elsewhere (Oakeshott, 1972) as the "conversation between the generations"—the voice of poetry, the voice of science, and the voice of history. One aims, through these *educational* tasks, to develop understanding of the world one inhabits, to act intelligently and humanely within it, and to contribute positively to the wider community one is part of.

Educational research, therefore, is the systematic study of how teachers might achieve the aims embodying these values. But such systematic study cannot be like the studies found in the social sciences, even though the teachers in their deliberations might and should take into account what the social sciences have to say in general terms about such things as learning, the conditions for successful learning, and the economic and social contexts of the lives of young people. What is distinctive of education are the connections it makes between the cultural inheritance, on the one hand, and the minds of the learners and the different ways in which they understand and appreciate, on the other. The teacher is dealing with *persons* whose minds and values are already shaped by background, local culture, and prior experience. To bridge the two is no easy matter and requires careful research of a distinctive kind. This ethical context of educational research is too often neglected, thereby raising questions about the educational relevance of research that is deemed educational and that profoundly affects practice.

Educational Research and the Improvement of Practice

Research is, as has already been argued, the systematic pursuit of knowledge. But there is a need to distinguish theoretical and practical knowledge

("knowing that" and "knowing how"). Theoretical knowledge is propositional and, systematically pursued, is accumulated into bodies of knowledge—the very thing that educational research is often accused of failing to do. But practical knowledge, though doubtless aided by such theoretical knowledge, cannot be logically reduced to it. I know how to drive a car, but I could not reduce that "knowing how" to a limited set of propositions. A good teacher, knowing and loving her subject, desiring to convey that knowledge and love to her learners, and responding in her teaching to the differences of understanding of her pupils, has the pedagogical know-how to do so without being able to give an exhaustive propositional account of her practice. No general formula would enable her to do so. The interactions with, and between, so many learners require differences of approach, careful diagnoses of the inclinations and modes of thinking of the different learners, and constant experimenting with methods of communicating the concepts and ideas. There is no simple line leading from the edicts issuing from universalized research conclusions to predicted outcomes of the learner. The art and the skill of the good teacher lie in being able to bridge the gap between the subject being taught and the minds of the learners.

Teaching therefore is a practical activity. But here we need to distinguish between practical activities that are a means to an end (and where the end is only contingently related to the end to be achieved) and those in which the end is embedded in the practice. In the former case, the end (e.g., scoring high in a test) can be shown to be achieved by certain practices (e.g., learning by heart certain formulae). But in the latter case, the end (the values that are picked out by the educational aims) is intrinsically related to the means through which the valued aims are implemented. The idea of an educated person is embedded in the very act of teaching—the choice of subject matter, the mode of engagement between teacher and learner, and how the work is assessed. Educational research, therefore, is the systematic exploration of how the teacher might be able to pursue those values (greater understanding, more intelligent practice, moral sensibility, and sense of community) with these learners. Central to educational research, therefore, is classroom research.

There is one particular difficulty in so concluding. Educational research, so described, is concerned with the implementation of values—what counts as an educated person. Inevitably, there are differences among teachers, even within the broad account that has been given of educational aims. That is why some would disagree with so-called educational research as having anything to do with education. It bears no relation to what constitutes nurturing the *educated person*. There is, for example, research by publishers on successful ways for improving test scores, such research lying behind the very profitable textbook industry. But this cannot be considered as *educational* research unless one sees getting high scores in itself—by whatever means—as part of the conception of being educated.

This is most important in thinking about what is distinctively educational research. We have seen, on the one hand, how engaging thoughtfully in education requires addressing the aims of education (*What counts as an educated person in this day and age*?)—essentially moral considerations. We have seen, too, how policymakers and teachers need to take into account what social scientists may say through the various forms of empirical research that bear on the attempts to answer that question in this context and with these learners. But reconciling and integrating these different considerations requires systematic and critical deliberation. Such critical and systematic deliberation is at the heart of educational research, and for that reason, the teacher has to be seen as a researcher in the following sense.

The teacher is trying to realize in practice certain educational goals. These goals embody the educational values to which he or she is committed. The reflective teacher will constantly try to articulate these goals in the context of his or her practice. And, no doubt in light of what others say, that which the teachers see to be of educational value for the learners in his or her care will evolve through criticism. Furthermore, in implementing those educational aims, the deliberations of the reflective teacher will take into account what researchers (especially the social scientists) have said—not slavishly because, as argued above, what is generally applicable may not be so for these children in this situation. For example, generalizations about the benefits of the phonic approach to the teaching of reading might not apply to children who are hearing impaired.

All of this applies to the reflective teacher, which however is not quite the same as the teacher *as researcher*—but is a precursor. What turns reflection into research are as follows:

- Clarifying as precisely as possible the aims of educating these learners—the knowledge and practical capabilities that are valued, the issues

of social concern that impact on them, the sense of personal worth that each is striving to acquire

- Gathering evidence which would support the claim that such aims have been implemented—or not, in which case, new approaches have to be found, tested, and refined in light of further experience. Part of that "refining" would lie in openness to criticism from other teachers and even from the students themselves who can provide input about the materials they have been working with and their classroom experiences.

Much has been written on the systematic way in which such evidence might be gathered, refined, and applied. The essence of the research, therefore, lies in the clarity of the *thesis* (the claim being made), the evidence which is relevant to challenging that claim, and the openness to critical scrutiny of the thesis and of the evidence provided. For this to happen, teachers within or across schools need to become supportive communities of researchers. Knowledge grows through criticism, and so, one needs to create the sort of communities where criticism can flourish—where the "thesis" can be tested, hopefully survive, or (where that is not the case) be refined. This is important because the natural human instinct is to avoid criticism and to avoid exposure to any evidence that makes one question what one believes to work.

The Role of Universities in Educational Research

Where are the universities in all this? The centrality of the practitioners to research into the improvement of practice requires participation in a critical tradition—a tradition that draws on the wisdom of the past, engages philosophically with the complex issues concerning knowledge in its different forms and the ethical foundation of the aims adopted, retains impartiality in the face of political pressure, and shows the significance of the findings of the social sciences to the particular deliberations of the school and the teacher. But that partnership between university and school—between the custodians of that critical tradition and the deliberations and pedagogical skills of the teacher—although central to educational research, is unlikely to produce the "big research" modeled on the social sciences or the major publications in the highly cited journals. But as "big research" and publications become increasingly the key requirement to university managers, educational research and, therefore, education departments might well become a thing of the past.

Richard Pring

See also Causation; Coleman Report; Educational Research, Critiques of; Evidence-Based Policy and Practice; Peters, R. S.; Postpositivism; Pure and Applied Research and *Pasteur's Quadrant*; Qualitative Versus Quantitative Methods and Beyond

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Phronesis (Practical Reason)

Naturalized recently into English, *phronesis* (φρόνησις) is a Greek term the meaning of which was classically articulated in the ethics of Aristotle (Book VI of the *Nicomachean Ethics*). There, it connoted practical wisdom, or the capability to make good judgments in action-situations by discerning, and being disposed to do, what is required by those virtues of character (e.g., justice, temperance, courage, patience, and honesty) the exercise of which realizes human flourishing (*eudaimonia*). Phronesis was itself categorized by Aristotle as an intellectual virtue, that is to say, a cultivated capacity for a kind of truth-disclosing knowing, a kind that he carefully distinguished from other kinds of such knowing on the basis of differences in the makeup of the object domains to which each kind was directed.

In particular, Aristotle distinguished phronesis as action guiding, from science (*episteme*), which was directed to objects whose invariability allowed for necessary knowledge (e.g., in mathematics or astronomy), and from craft knowledge (*techne*), which directed the fabrication of durable products through the imposition of pre-apprehended forms on suitably receptive materials (e.g., in building or sculpture). In contrast, the scene of action was fluctuating and open textured, requiring more intricate modes of engagement and a kind of knowing more seamlessly related to the agent's experience and character.

Phronesis has been retrieved in recent philosophy as part of a significant renewal of interest in Aristotle's ethics, for example, in the emergence of "virtue ethics" and "virtue epistemology" and, more broadly, in critiques of positivistic conceptions of knowledge and technocratic conceptions of action. Such critique has resonated with many theorists keen to resist similar conceptions of how practice is to be conceptualized and conducted in education, health care, and other "helping professions."

Among the features of phronesis that have proved attractive to these theorists are its nonconfinement to generalized propositional knowledge and its related ability to engage in the kind of deliberative process that can yield concrete, context-sensitive judgments. Its key role is to mediate between the universal and the particular, a role that requires perceptiveness in the reading of particular situations as much as flexibility in the mode of possessing and being informed by knowledge of universals. (This flexibility is nicely captured in Aristotle's approving reference to the measuring rule used by builders at Lesbos, which, being made of lead, was pliable enough to measure the surfaces of irregularly shaped stones—unlike, for example, a wooden rule; see *Nicomachean Ethics*, Book V, chap. 10).

The retrieval of "phronesis" has contributed significantly to resistance to the sway of "technical rationality" in research and practice in education and other cognate disciplines. Technical rationality here connotes an approach to knowledge and action that prioritizes detachment of the agent, strictly controlled operations, transparent procedures, replicable findings, and the separation of facts, which fall within the ambit of knowledge, from values, which do *not*—though they may, by some nonrational route, exert an influence on action. The claim pressed against technical rationality, and what is seen as its increasing and unjustified hegemony, is that when imported into properly practical domains, it badly distorts them—and so needs to be complemented if not supplanted by other, more hermeneutically sensitive modes of knowledge and inquiry. At issue is the quintessentially Aristotelian tenet that the subject matter in any domain should determine the kind of knowledge that is appropriate to it and, accordingly, that the fabric of human action and interaction, being essentially different from the fabric of the material world, requires its own irreducibly practical (as distinct from technical) mode of rationality—one in which phronesis has exemplary significance.

This exemplarity is reflected in three distinct concerns that have been manifest in educational theory over the past few decades. First, and closest to Aristotle's own use of the term, approaches in *ethical and civic education* have stressed that, in being habituated into a range of character virtues, students need to acquire phronesis as the resourcefulness of mind and character that will enable them to appreciate and accomplish what is required by these virtues, singly or in combination, in the great variety of circumstances that may call for their exercise. Second, and by an extrapolation not to be found in Aristotle's own writings, phronesis has been invoked in clarifying the kind of knowing-in-action that informs the *pedagogy* of accomplished teachers reflectively attuned both to the educational goals at stake in their teaching and to the multiplicity of contextual factors that may modify or nuance the attainment of these goals in any particular teaching situation. Third, phronesis has featured in methodological debates about *modes of inquiry* that would illuminate or explain what goes on in the field of education. Here, linked more directly with the critiques of positivism already mentioned, phronesis has been an important reference point for approaches that emphasize the need for interpretative flair and finely textured judgment on the part of researchers seeking to understand the dynamism, complexity, and multilayered nature of pedagogical practice—and constructively to redirect it in the many different institutional settings in which it is embedded.

The first concern above reflects the influence of "virtue ethics" in moral and political education over the past two decades. It has been an important counterthrust to the earlier dominance of Kohlbergian (or broadly Kantian) approaches, serving to rebut the conception of education in the virtues as a mechanical inculcation of low-level responses. To

assign an irreplaceable role to phronesis is to insist on reasonableness as a component of virtues—albeit this component itself is not to be acquired independently of, or as external to, the process of character formation (with its reordering of affective life). This concern has been articulated mainly by philosophers of education in the analytical tradition, for example, David Carr and Jan Steutel, who find sufficient warrant for it in a straight reading of Aristotle's own texts. The second and third concerns differ from it in that they have arisen on a broader front, addressing not only education but also comparable domains such as medical practice, public policy, and law; and here, attempts have been made to integrate core insights of Aristotle's analysis with perspectives developed in more recent philosophy. An example of the second is Joseph Dunne's (1993) attempt to reread Aristotle mainly in light of a differentiated appropriation of H.-G. Gadamer's hermeneutics and Jürgen Habermas's critical theory, in outlining a conception of the kind of practitioner's knowledge required in these domains. An example of the third is Bent Flyvbjerg's combination of Aristotle on situated deliberation with Michel Foucault on power, in outlining an alternative kind of social science research that, avowedly committed to common goods and expressly reflecting on its own complex links with policy and practice, unabashedly conceives its role as socially transformative (Flyvbjerg, Landman, & Schram, 2012).

As part of what is called here its recent "retrieval," appeals to phronesis have multiplied throughout education theory—in writings, for example, on pedagogy and assessment in a great many curricular areas, from mathematics to music, and on professional education, not only of teachers but also of, for example, psychotherapists, nurses, pastors, lawyers, managers, and designers.

The value of the undoubted impact of phronesis and the legitimacy of recent interpretations of it have not, of course, been uncontested. Criticism has come mainly from defenders of more established conceptions of the relationship between practice and theory—and especially from those committed to technicist conceptions of practice (with the possibility of exhaustive codification of action-guiding, domain-relevant rules) or nomological conceptions of theory (in which exception-less generalizations hold sway). Critics accuse phronesis—with the discretion that it accords to the deliberation and judgment of situated agents—of an unprincipled particularism that undermines the status of universals, thereby misconceiving the nature, and emasculating the role, of theory. Such critics include analytical philosophers of education who dispute its Aristotelian credentials, though the large body of commentary on the *Ethics* over recent decades includes decidedly particularist readings of Aristotle's analysis of ethical deliberation by prominent analytical philosophers.

Joseph Dunne

See also Aristotle; Critical Theory; Hermeneutics; Kant, Immanuel; Moral Development: Lawrence Kohlberg and Carol Gilligan; Positivism; Rationality and Its Cultivation; Virtue Ethics

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Piaget, Jean

This entry is focused on the main intertwined philosophical and psychological underpinnings of the views of Jean Piaget (1896–1980) on education. It relates these to his theory of psychological development and also points to some misinterpretations of Piaget's views.

Introduction

Education was not the central interest in Piaget's research program. He refused to be considered an educationist, and what he wrote on education represents only a 300th part of his life's work, which totals about 35,000 pages.

Piaget considered himself an epistemologist or a theorist of scientific knowledge. Going further than other epistemologists, who only reflect philosophically on scientific knowledge, Piaget appealed to developmental psychology to investigate and "test" what he called the two great mysteries of knowledge:

1. How do new forms of knowledge appear and develop in the course of ontogenesis or the individual's development? For example, how does a

youngster come to acquire concrete operational thinking (e.g., come to understand that the number of elements in a set remains the same regardless of their spatial configuration in the set—number conservation)?

2. How do such forms of knowledge come to be regarded as necessary? That is, how do they come to be understood not only as actually being the case (i.e., true knowledge) but also as necessarily having to be the case (i.e., necessary knowledge)? (The knowledge involved in the example above is not only true but also necessary.)

These two concerns gave rise to a complex theory of the subject's psychological development that has been highly influential in shaping theoretical debate and empirical research both in developmental psychology and in educational thought. Every textbook on educational psychology and developmental psychology published today contains a discussion of Piaget's theory of psychological development.

Development Through Stages

In brief, Piaget's (1960, 1970a) theory holds that as time goes by, the individual's cognitive apparatus, specifically the logical structures—which constitute a framework shaping the individual's interactions with the world—becomes more adequate for dealing with the complexities of experience. It can be noted here that there is more than a passing similarity to the categories of understanding postulated by Immanuel Kant, which serve a similar function but with the important difference that the Kantian categories do not develop over time in the individual but presumably are hardwired or inborn.

The developmental stages that Piaget (1960) identified are characterized by several criteria. They represent new and qualitatively distinct forms of knowing; they are integrative in that a given stage always integrates its predecessor; they develop according to an invariant sequence in the sense that the lower stages necessarily occur before the higher ones; they are hierarchical—that is, a given stage has something more and coordinates more dimensions or perspectives than the preceding one; they are structural because they are organized or structured by what Piaget called a structure-of-the-whole (similar ways of solving intellectual tasks, e.g., number conservation or class inclusion, whose content is different and that are organized together cognitively); finally, they involve a phase of preparation, when the subject is passing from a lower stage to a higher one, and a phase of consolidation, when a given stage is well established in the individual's mind.

Cognitive development, then, proceeds through four stages. At the sensorimotor stage (from birth to two years approximately), children relate to others and the world through senses and movement and are capable of what Piaget called practical intelligence; for example, at the end of this stage, they can look for a desired object that vanished from their vision because it was hidden under several covers (i.e., object permanence).

At the preoperational stage (from roughly two to seven years), children are capable of mental actions, for example, playing with a doll as if it were a dog (i.e., pretend or symbolic play), but not capable, for instance, of understanding that a rose is a rose but also a flower. Thus, children at this stage are not yet capable of what Piaget called operations, or actions that are mental, reversible, and governed by rules of transformation—for instance, children are not yet able to understand that in a set of 10 flowers with eight roses and two daffodils, there are more flowers than there are roses because daffodils are flowers too (i.e., class inclusion), or that the operation $2 + 8 = 10$ can be nullified through an inverse operation, $10 - 8 = 2$ (i.e., number conservation). As preoperational children are figurative or perception oriented, when asked in this class inclusion task if there are more flowers or roses, they answer that there are more roses, because there are a lot of roses and only a few daffodils. As roses and daffodils can be seen, which is not the case with the abstract class "flowers," preoperational children compare roses with daffodils instead of thinking of both as subclasses of a broad class or concept—flowers.

At the concrete operational stage (from ages 7–12 on average), the child is capable of operating or thinking logically, but always with a basis in concrete or material things that can be subject to seriation, class inclusion, conservation, transitivity, and so forth. A child who is capable of operating in the intellectual domain is also capable of cooperating with others in the social domain and of disputing or argumentation in the verbal domain. This solidarity among operation, cooperation, and argumentation is a token of Piaget's structural perspective, which lies at the heart of his epistemology and developmental psychology, and has implications for his views on education.

At the formal operational stage (from ages 12/13 to 16, on average), individuals are capable of abstract reasoning; for example, they can understand the following: "If p, then q; it is not the case that p, therefore nothing can be concluded about q."

For Piaget, the individual's progression through these cognitive stages implies a process of functional continuity in that at all stages individuals function intellectually in the same way: They assimilate the unknown to their cognitive structures or forms of knowing, and the individuals/learners enrich these structures as they accommodate them to the novelties coming from outside. This process of a continuous interaction between assimilation and accommodation, which Piaget called equilibration, gives rise to an ever-increasing active adaptation of the individual to his or her physical and social environment, that is, to more advanced cognitive stages and their underlying cognitive structures. It is in this sense that Piaget speaks of structural discontinuity as development goes on.

This complex and rather abstract theory has been misunderstood by many psychologists (see Lourenço & Machado, 1996). The idea that age is for Piaget a criterion rather than an indicator of development is just one example. Although Piaget has associated his stages with certain ages, age is not for him a criterion of development. Contrary claims notwithstanding, the idea that a younger child may be more cognitively or morally advanced than an older one does not contradict Piaget, simply because age is an indicator and not a criterion of development. This is one of the reasons why Piaget was more interested in the sequence of transformations than the chronology of acquisitions.

Education Is a Scientifically Oriented Process

Although stating that teaching did not interest him, Piaget wrote a great deal on education, mainly while he was the director of the international bureau of education (1929–1967). His two main books on education, *To Understand Is to Invent: The Future of Education* (1973) and *Science of Education and the Psychology of the Child* (1970b), are pervaded by the idea that only education is capable of saving societies from possible collapse, whether violent or gradual.

For Piaget, education should be oriented by a scientific theory of the individual's psychological development. This means that the teacher not only should know his or her subject of specialization (Piaget argued for a college or university background even for preschool teachers) but also be knowledgeable of the individual's psychological development. If the former is not the case, the teacher is no teacher at all. If the latter is not the case, the teacher risks teaching to his or her pupils material that is much above or below their cognitive stage, and hence material that is ill-tuned to their cognitive ability to understand.

Consider the case in which a teacher intends to teach a concrete operational pupil the idea of proportionality, which requires formal operational competencies. As such an idea is much above the concrete operational stage, the risk is that the pupil will memorize rather than understand the material that is being taught. In short, there is neither significant teaching nor significant learning because no assimilation/accommodation is taking place.

It is worth mentioning, however, that Piaget admitted and valued what he called operational learning (see Inhelder, Sinclair, & Bovet, 1974), a form of learning wherein by interacting with more competent children, a child comes to understand some problems or situations that are not much above his or her own cognitive stage. Contrary claims notwithstanding, this possibility shows that, to an extent, Piaget is not at complete variance with Jerome Bruner's (1960) idea that we can teach effectively in an intellectually honest manner any subject to any child at any stage of development and also with Lev Vygotsky's (1978) idea of the zone of proximal development. (This latter is the distance between the child's actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers.)

Consider now the case wherein a teacher intends, for instance, to teach a formal operational student the idea of number conservation, which requires only concrete operational competencies. Given that such an idea is much below the cognitive stage of the student, the student is not interested in what is supposed to be taught because he or she knows the point in advance. As a result, there is nothing to be assimilated to, or incorporated into, the student's cognitive structures—there is nothing to which the student has to accommodate his or her existing cognitive structures. Therefore, no significant teaching or learning occurs.

These two examples show that Piaget's views on education—mainly his conceptualization of the main goal of education being the creation of individuals who are creative, inventive, and discoverers who are not limited to simply repeating what other generations have done—is rooted in his scientific theory of psychological development. This is also true of the active methods he advocated for education. The teacher is more a mentor and an organizer of learning situations, someone who helps students actively rediscover or reconstruct every truth to be learned, than a simple transmitter of knowledge (see more below).

Education Is a Process Oriented to Moral and Intellectual Autonomy

As noted above, for Piaget, the goal of intellectual education is to develop intelligence rather than to promote rote learning, and to give rise to inventors rather than to conformist people. The goal of moral education is to develop an autonomous morality, a morality oriented to equality, cooperation, and mutual respect, not a heteronomous morality, a morality based on obedience, coercion, and unilateral respect (Piaget, 1932).

Thus, for Piaget, education aims at forming autonomous and critical individuals, not individuals who are oriented to an uncritical acceptance of dogmas, established truths, or truths imposed from outside.

This objective stands in sharp contrast with the conservative goal of traditional education, which is to inculcate and transmit to students the existing knowledge and values from one generation to another. It is worth stressing here that individuals who do not accept dogmas and truths imposed from without are autonomous individuals in intellectual and moral terms, for they are more self-governed than dependent on established moral norms or intellectual truths.

The following are three common misunderstandings of Piaget's views on education as a process oriented to the individual's autonomy:

1. Piaget equates autonomy with total freedom.
2. He sees intellectual and moral autonomy as being synonymous with individualism.
3. He considers heteronomous morality and autonomous morality as stages of moral development.

For Piaget, far from implying total freedom, autonomy requires one to be subject to prescriptive and reversible moral principles, such as the golden rule in the moral domain (Do not do unto others what you would not like others to do unto you), or to be subject to reason more than to perception while solving cognitive tasks. When children think that the amount of elements in a set depends on their spatial arrangement in the set, they are being figurative, preoperational, or perceptually oriented—and, so to speak, intellectually heteronomous. When children understand that such an amount is independent of its spatial configuration, they are being operative, operational, and reason oriented—and, so to say, intellectually autonomous (Piaget, 1966).

Autonomy for Piaget is not tantamount to individualism but, rather, involves exchanging points of view and coordinating different perspectives. Whereas a heteronomous moral child judges a moral transgression (e.g., stealing) as a function of the physical outcomes it involves, an autonomous moral child takes also into account the intentions underlying the respective transgression. In the same vein, an operational child who in a liquid conservation task integrates the tallness and the width of a glass containing water is more advanced and intellectually autonomous than a preoperational child who attends only to one of these two dimensions. As a result, the operational, but not the preoperational, child understands liquid conservation, that is, that the amount of water in a glass remains the same regardless of the size of the glass.

This means that those who fault Piaget for being oriented to individualism in his views on development and education are not aware that on several occasions he has argued as follows:

1. Individuals would not come to organize their operations in a coherent whole if they did not engage in thought exchanges and cooperation with others.
2. There are neither individuals as such nor society as such, there are just interindividual relations.
3. The active school presupposes alternating between individual work and work in groups.
4. Collective living has been shown to be essential to the full development of one's personality.

Contrary views notwithstanding, Piaget never considered heteronomous morality and autonomous morality as successive stages of moral development

but as moral attitudes that may coexist at the same age in the same child.

Education Is an Interactionist Process

For Piaget, learning has two distinct meanings. In its strict sense, it means all knowledge and values acquired due to specific, discrete experiences; a child who learns that a sphere is different from a circumference is a case in point. In a broader sense, learning is a process equivalent to development, and it involves a continuous interaction between the individual and his or her physical and social environment. For Piaget (1964), learning in its developmental sense depends not only on the three traditional factors he called the "American question" (i.e., maturation, physical experience, and social transmission, including language) but also, and mainly, on the process he calls equilibration or self-regulation. (Equilibration is a balance between assimilation—which involves dealing with an environmental stimulus using the present cognitive structures—and accommodation, in which an environmental factor stimulates a change in the existing cognitive structures. This dual process leads to an ever-increasing active adaptation to the environment.)

Piaget's interactionist/relational perspective on development and education is documented in the following ideas:

1. Knowledge and education are the result of a continuous interaction between assimilation and accommodation.

2. Individuals develop and learn as they interact with their physical and social milieus.

3. Equilibration incorporates and interrelates the three aforementioned traditional factors of the individual's development.

4. The active methods are neither entirely teacher centered nor entirely child centered but, rather, consist in a teacher organizing classroom situations and involving students in experimentation.

5. Individuals can achieve their inventions and intellectual constructions only to the extent that they are involved in collective interactions.

6. The most appropriate method to interview children is the Piagetian (1929) clinical method, which consists mainly of a verbal exchange/interaction between the interviewer and the interviewee to grasp the interviewee's own way of thinking (these interviews are not designed to teach the interviewee the correct answers to the interviewer's questions).

Education Is a Constructivist Process

Constructivism has a variety of meanings, the discussion of which is beyond the scope of this entry. However, the idea that Piaget embraced a constructivist conception of development and education is accepted by all psychologists and educators. For Piaget, to embrace a constructivist stance implies adopting the following three intertwined ideas:

1. The importance of action, be it sensorimotor (e.g., to hide an object under a blanket) or mental (e.g., to understand that the arithmetic operation of multiplication can be undone by the arithmetic operation of division: $5 \times 4 = 20$; $20/4 = 5$), for the individual's development and education is paramount.

2. Although maturation, physical experience, and social experience play a role in individuals' development and education, it is their actions on objects that are the ultimate factors in their development and education.

3. Knowledge is not a copy of reality. To know an object or an event is not simply to look at it and make a mental copy of it—to know an object is to act on it, to transform the object, and to understand the process of this transformation (Piaget, 1964).

Piaget's ideas that (a) a truth learned is only a half-truth because to understand is to discover, or reconstruct by rediscovery; (b) the most appropriate methods to use in schools are the active methods, for they give broad scope to spontaneous research on the part of the individual and require that every new truth to be learned is rediscovered or at least reconstructed by the students, not simply imparted to them; and (c) the main goal of education is to give rise to inventors and creators, not to conformist individuals, are clear expressions of his constructivist conception of education.

However, Piaget's constructivist conception of education also has given rise to three common misunderstandings:

1. The teacher has no role in students' education, and their success depends on leaving them entirely free to work or play as they will.

2. Piaget's emphasis on the subject's actions and coordination of actions as being the main factors responsible for his or her development and education overlooks the role of the three aforementioned traditional factors.
3. Because Piaget subordinates learning to development, education cannot accelerate the individual's development.

With respect to the first misunderstanding, suffice it to say that for Piaget what is desirable is that the teacher ceases to be a lecturer and is instead a mentor stimulating the students' initiative and research. As for the second misunderstanding, Piaget never denied the role of maturation, physical experience, and social transmission in the individual's development and education. However, for him, a social transmission or stimulus is only significant to the extent that there is a cognitive structure or level of development that allows its assimilation.

Regarding the third misunderstanding, Piaget accepted the idea that, to an extent, it is possible to accelerate the subject's operational competencies, such as class inclusion and transitivity. Although he accepted this possibility, Piaget (1964, 1973) had the following to ask:

1. Is such acceleration beneficial or, rather, detrimental to the child's development and education? For Piaget, whenever one prematurely teaches a given child something that he could have discovered by himself, that child remains deprived of complete understanding.
2. Is this learning through acceleration lasting?
3. How much generalization is possible?
4. What was the subject's operational level or stage of development before a given learning experience, and what more complex structures has this learning succeeded in achieving?

In short, for Piaget, we must look at each specific learning experience from the viewpoint of what spontaneous operations were present at the outset and what operational level has been achieved after the learning experience.

This entry's focus on the main psychological and philosophical underpinnings of Piaget's views on education should have revealed the extent to which he was ahead of his time.

Orlando Lourenço

See also Adolescent Development; Autonomy; Bruner, Jerome; Childhood, Concept of; Conceptual Change; Dewey, John; Moral Development: Lawrence Kohlberg and Carol Gilligan; Radical Constructivism: Ernst von Glasersfeld; Vygotsky, Lev

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Plato

Son of an aristocratic Athenian family, Plato (428–348 BCE), in his 20s, came into the circle of Socrates, who was to become the lasting influence on his philosophical thought. Following the execution of Socrates, Plato renounced the direct involvement in politics that was expected of youths of his social standing and turned to writing and education. His Academy (founded in Athens around 385 BCE) was one of the first Greek institutions of research and higher learning.

All of Plato's writings are in the form of dialogues, except for the *Seventh Letter*, possibly the only authentic letter among those attributed to him. The leader in most of the dialogues is Socrates, and Plato never speaks in his own person or mentions himself, except twice in the *Apology* and once in *Phaedo*. The chronology of the dialogues is uncertain beyond a very general distinction between the early, middle, and late dialogues, with blurred borders between those periods, the details of which have been in great dispute over the past two centuries.

Very little is known about Socrates. He was accused of impiety and of corrupting the youth and was put to death by poison in 399 BCE. In this entry, "Socrates" refers to the Platonic Socrates, as Plato understood and presented him in the dialogues—a complex, equivocal, and multilayered figure, never to be taken simply as Plato's spokesman.

Plato's main concern in all his dialogues, even in those most logically or metaphysically oriented, was with ethics and education. He tried strenuously to oppose, on moral and epistemological grounds, both Protagorean relativism and the value-free education inspired by Gorgias. He saw education as promoting the health of the soul. But, for him, health is the embodiment of an ideal pattern not immediately given in experience. Thus, no true education can be based on naturalistic or positivistic premises.

Lacking the modern, biblically inspired, conception of a source of values absolute yet not natural, Plato was faced with the stark choice between naturalistic and conventional ethics, both unacceptable to him. Ethical standards must be absolute and imposed on the natural world, not derived from it. He was then bound to put his ethical standards as real yet outside the empirical world. The whole of Plato's philosophical project is a consistent effort to give his Socrates's moral and educational intuitions the metaphysical basis they lacked.

In all of Plato's dialogues, Socrates (or, in a few cases, his stand-in) starts from the opinions of his interlocutor at that moment and tries to disabuse him of the false or half-understood ones and draw him, not always successfully, toward what he, Socrates, considers the truth. Exceptions are dialogues such as the *Apology*, Plato's version of Socrates's defense speeches; *Timaeus*, which presents a physical and hypothetical cosmological system; and *Laws*, which lays down the law for a prospective state—none of them amenable to dialectical treatment.

In many dialogues—such as *Laches*, on courage; *Euthyphro*, on piety; *Meno*, on the teachability of virtue; and *Theaetetus*, on the nature of knowledge; and also, to a lesser extent, in more "constructive" dialogues, such as the *Republic* or the *Sophist*—the dialogical tool of Socrates is the elenchus, the effort by means of questions to bring his interlocutor to realize the inconsistency of his initial position, to achieve the "cleansing of his soul" from its contradictions. Intellectual as it may be, the Socratic elenchus never loses its traditional emotional component. It has been said that Socrates, as a rule, does not refute abstract propositions, but with his questions, he confronts his interlocutor in all that person's complexity—intellectual, emotional, and social. For Socrates, the existential aspect of education, the total involvement of the interlocutor, and his personal commitment to his responses are of maximal importance. He repeatedly asks his interlocutor to answer what he truly thinks, for there is no educational value in a correct answer that does not carry the answerer's conviction.

But the elenchus only forces the respondent to confront the contradictions in his soul and his unreasoned opinions, true or false, without providing him with an alternative. Thus, the Socratic elenchus leads to *aporia*, a "dead end," where the respondent is meant to face his ignorance (but does not always admit it). This state of ignorance is beneficial, since it allows the search for truth, which had been prevented by the erroneous conviction of its being already in one's possession. Education is, indeed, clarification, but it is not "value clarification" in the modern sense.

Plato is profoundly distrustful of language (see, e.g., *Euthydemus*, *Cratylus*). Words can teach us only what we already know—and little else of any importance. His Socrates must use the same words as the common man—such as *courage*, *wisdom*, *utility*, or *success*—to say something totally new. Knowledge, as distinct from opinion, cannot be

handed down. Therefore, the Platonic Socrates is necessarily ironical. He will always ask, and refuse to answer. And when he does propose an answer, one can never be sure whether he really endorses it or merely puts it forward for consideration, often as a "red herring." Socrates's irony is "open." It shows us what the answer is not; it never shows or implies what it is.

It disabuses the interlocutor from his wrong (in Socrates's eye) or unreasoned opinions but cannot give him anything instead, or it would give him just another opinion, no better than his previous one (except, perhaps, for practical ends). The answer has to be left for the interlocutor to find out for himself, lest it be believed not out of personal conviction but out of respect for authority or mere convenience—an opinion like any other.

The central educational question in the 5th century BCE, as today, was whether human excellence, *arete* (often, somewhat misleadingly for modern ears, rendered as "virtue"), can be taught. Is there an art of good living? Can one teach how to reach *eudaimonia*, "happiness and success"? But *arete* cannot be a technique to be learned. Any technique is double-edged: The best doctor is also the best poisoner. *Arete*, however, cannot be misused and cannot be passed from teacher to pupil. The only knowledge thought by Plato's Socrates to be of educational value is the knowledge of oneself. As he puts it in the *Apology*, conscious of the difficulty of its general acceptance, "The unexamined life is not worth living for man." Only reflective intellectual effort has real moral worth.

Man's fundamental capacity is reason, however encumbered and distorted it may be in most cases. This is why Plato sustained the impossibility of *akrasia*, "lack of control" (not quite the modern "weakness of the will"). Every human endeavor is basically rational. Man aims at what he considers the good. But he may be, and often is, misguided. If he knew the real good, he could not avoid pursuing it. Thus, if one can be ridden of one's false opinions, one should by oneself be able to see the good and do it. (As the concept of a pure will is, by definition, irrational, it was inaccessible to Greek classical philosophy.)

It was Plato's basic conviction that there is a real, not merely conventional or subjective, distinction between knowledge and opinion, as between good and bad. In *Gorgias*, he explains this distinction in terms of the difference between having been persuaded and having learned. One is *persuaded* when one accepts an opinion on extraneous grounds, such as the authority or the rhetorical skill of the persuader, but one has *learned* when one is able to give the relevant reasons for the truth of what has been believed. Knowledge, in other words, is not just a higher degree of opinion. One may hold an opinion with as much conviction as if one knew it, but the degree of conviction does not turn it into knowledge. An opinion may have practical, instrumental value; but for Plato, the value of knowledge is primarily normative and moral in itself.

Education is the development of reason for its own sake. Yet, in Plato's conception of reason, it is inseparable from emotion, even if not identical to it. Although natural to man, reason has to be carefully nurtured. Obviously, at least in the first stages of its development, and even much beyond that, reason must be reared by irrational means. Plato puts irrationality at the service of rationality. Education can operate only through psychological, empirical means. Its aim, however, is not empirical. That psychological and mental revolution requires an intellectual purgation to be achieved only by one's own effort.

Knowledge involves the giving of reasons. But it is not enough that there be a reason; one has to perceive it as such. Yet every reason itself needs a reason. Thus, to avoid an infinite regress, an ultimate reason is needed, what Plato calls an unhypothetical beginning or principle. This principle, however, cannot, strictly speaking, be the first member of the series but a reason of another kind, not in need of any further reason. That is the idea of the Good, as Plato calls it.

Rational knowledge, not empirical information, already is in man, but it has to be awakened. This awakening of pure knowledge is likened by Plato to recollection (*anamnesis*). Truth is already known by the person, but in an indistinct manner. The act of recollection is not in producing the correct answer (often suggested by Socrates himself) but in finding out the reasons for it (see *Theaetetus* §160e), in transforming the mere opinion into reasoned knowledge. The content thus incorporated into the whole fabric of one's beliefs is then not perceived as something new but as if it had been there all along, leading eventually to wisdom as fully integrated, synoptic knowledge.

The emotional and erotic aspect of education is stressed in the *Symposium*. Platonic reason is not light without heat. In the ascent toward the Beautiful in itself, the clearest insight into reality is also the height of the impassionate drive to achieve

it. Appetites are not blind but are confused perceptions of the same object of reason. Man's most basic drives are an obscure semiconsciousness of his true nature. Reason is not a sublimation of those drives; rather, these are a lower form of reason. This dialogue introduces an important element in Plato's philosophy of education. Here, Aristophanes portrays man as seeking his "other half," which he lacks. Socrates corrects Aristophanes in this way: Man is not incomplete; he is imperfect but perfectible. Education is the process of helping man achieve his perfection. This can be achieved only by a strenuous introspection, purely personal and yet universally valid. The most profound subjectivity is also the most complete objectivity.

Undoubtedly, however, the *Republic* stands as Plato's major work on education. The ostensive theme of the work is justice. Justice is attained when there is a proper hierarchy of elements in the soul, and in the city or state, under reason. And while justice is good for its consequences, primarily it is good in itself. The state (which Plato does not distinguish from society) is for the sake of education, not education for the sake of the state. In the first stage of the theoretical construction of the city, "the city of pigs," all of man's basic necessities are provided, and education is barely called for. But man is not satisfied with what that minimal society can provide. He needs art and luxury, and thus also poets and doctors—and education, which will eventually lead him to contemplation and to philosophy.

In Plato's state, there are three social divisions (not quite classes), which have different functions, coupled with the three functions ("parts") of the soul: (1) the philosophers (who govern the city in light of reason), (2) the auxiliaries (civil servants, primarily in charge of security, internal and external), and (3) the producers. The first two groups are referred to together as "guardians," and membership of them is not hereditary. Plato's city is a strict meritocracy, although he recognizes that the children of guardians are more likely to become guardians. Plato aimed at avoiding nepotism and also wished to dissociate financial status and will to power from actual power in the state. Guardians will have no family and no property and will be cared for by the state.

Plato conveys the philosophical basis for his views on education (particularly the education of guardians) not directly but via the use of three analogies; he then describes the actual educational process quite concretely. The complex triple analogy of the Sun, Line, and Cave in *Republic* vi–vii is used because it is impossible to discuss the fundamental, intelligible reality—the Form of the Good—directly. So just as the sun makes physical objects observable and enables the eye to see, so also does the Form of the Good make the abstract objects of thought intelligible and enable the mind to attain knowledge. How the mind can be led to apprehend this Form (i.e., educated) is addressed in the allegory of the Cave. Chained in a cave, facing the back wall all of their lives, the prisoners naturally take as true reality the shadows cast on this wall from objects that are out of sight behind them. If a prisoner is released and has his vision turned toward the light—a painful process—he will be able to see the objects outside and realize that the shadows were but a pale representation of these. On returning to educate his fellow prisoners, his message will be met with incredulity. Later, Plato spells out in a more concrete way precisely what this difficult (if not painful) educational program needs to be to produce the rulers (the "guardians") of his Republic, who need to attain knowledge through their apprehending of the ultimate reality, the Good. (The analogy of the Line is more complex, and it attempts to make clear the distinction between the state of opinion or belief, which is all that can be attained of the physical world, and the state of knowledge—which is required of the guardians—which only can be attained with respect to the real, purely intelligible world of the Forms.) For Plato, then, education is not "putting vision into blind eyes" but "turning the eye of the soul" from the sensible to the intelligible; however, the eye cannot be turned without also turning the whole soul. There can be no purely intellectual education.

This long process of education toward reason and order begins before birth, through the regular movements of the pregnant mother. Plato also stresses the crucial educational role of myth and art; their power to influence character and action makes not only for their educational efficacy but also for their educational danger. Therefore, in the Platonic city, art, and especially poetry, will be subjected to censorship. Stories are an important tool for the formation of character, providing models for imitation. Indoctrination is a necessary stage in the development of reason. There is no education, from its early stages and much beyond, without some measure of indoctrination.

Early education also will include gymnastics for the body and music (including poetry) for the soul. All citizens will have reading and writing and some basic numeracy, to the measure of their abilities.

Those capable will continue in view of becoming guardians. (Thus, in the *Republic* and in *Laws*, all will have the same education according to their capacities.)

It is clear that a crucial element in the education of guardians is the study of mathematics. Plato's five mathematical sciences—arithmetic, geometry, stereometry, astronomy (kinematics), and music (acoustics)—direct the mind away from the specific phenomenon at hand to the underlying general structure, thus accustoming the mind to see the ideas or forms behind the particular cases. So, although all those mathematical sciences have practical applications, their real value lies not in these but in the understanding, not through the objects of the senses, and in the contemplation of order for its own sake that they foster.

In the concluding myth of the *Republic*, the souls in Hades are brought to choose their next life before drinking from the river of forgetfulness (the story alludes to Plato's view that knowing is recollection). The first soul to choose had lived a life of virtue in a well-governed city, but without philosophy. He chose "the greatest of tyrannies," and only after this choice, did he realize that he was destined to "eat his own children and suffer even worse evils." In other words, that soul was fortunate not to have been faced with a temptation greater than his fortitude. His life of unreflective virtue was an accident, for which he himself could not be held responsible. In a matter of overt behavior, his demotic virtue was indistinguishable for true *arete*. However, true *arete* is not in the overt action but in the nature of one's *ethos*.

In that myth, no one achieves true *arete*. In the eyes of Plato, no one could, except perhaps Socrates. When given the chance to change his life, in *Crito*, he refused, for the life he had lived was of his own choice and he did not regret it. *Arete* has no masters, and the god is not to blame. One is responsible for one's *ethos*. One cannot blame external circumstances, heredity, society, or bad luck for one's moral failures.

This helps explain why Plato is opposed to tragedy as an artistic or literary form, because tragedy presents an action deemed to be complete, and by its consequences, the agent thinks himself happy or miserable. But the action presented on stage is never complete without the *ethos*, prior to the action, by which true *eudaimonia*, happiness and success, is evaluated. Tragedy is morally incomplete and educationally dangerous.

Accordingly, *eudaimonia*, being an objective and not a subjective state of mind, is not a consequence of one's actions or of external events but of one's *ethos*, one's attitude toward them. The aim of education for *eudaimonia* is to open the way for a change of perspective, for which there are no foolproof techniques, and for a psychical revolution that can never be guaranteed. Each soul needs a different educational approach. To be effective, education must be on an individual basis, and the approach suited to young Charmides is not suited to Gorgias or to Polus.

Plato is pessimistic about the chances of educational success. Education is a function of time, and there are no shortcuts to virtue. Furthermore, Plato's Socrates is an educational failure. Some of the youth with whom he interacted turned out to be among the worst Athenian tyrants. With already formed adults, like Protagoras, Thrasymachus, or Gorgias, he could not get anywhere, unless they were already predisposed toward philosophy, like Glaucon and Adeimantus in the *Republic* or Phaedo or the young Theaetetus in the eponymous dialogues.

The city of the *Republic* is not a blueprint for the establishment of the perfect state. It is a city in the heavens. It is not a utopia but rather a standard by which to measure actual states. It is not a goal to be achieved as such but a demand for a continual effort of self-improvement, for which an objective, nonempirical standard is given to mark the direction to be followed.

In his last dialogue, *Laws*, Plato passes from theory to practice. Laws are set for a viable state led by nonphilosophers, conforming as much as possible to the standards of the *Republic*. These laws are introduced by preambles aimed at achieving obedience through understanding of their instrumental advantages (more readily understood than real *arete*). But if necessary to ensure obedience, penalties are set for their infringement. Education in such a state is characterized as the correct channeling of pains and pleasures, aiming at developing "a keen desire to become a perfect citizen, who knows how to rule and be ruled" in turn.

Samuel Scolnicov

See also Aristotle; Paideia; Socrates and Socratic Dialogue; Sophists; Spectator Theory of Knowledge

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Play

Although it is difficult to define play and to carry out empirical research on it, it is widely regarded as important for human life, development, and education. Ancient, premodern, Enlightenment, modern, and postmodern philosophers have sought to illuminate its meaning and purpose. Moreover, educational, psychological, and social theorists remain active in delineating and explicating different positions concerning the relationship between play and education. Much work has also been done on the design and implementation of practical ways to use play to foster students' well-being and learning; nevertheless, play's role in schooling is contested. Scientifically, play's slippery definitions hamper research and evaluation; ideologically, play's reputation and illusiveness invite criticism, and there is opposition to play-related innovations and interventions in education. Philosophical inquiry, conceptual analysis, and empirical research have been vigorous; further work may alleviate some current problems, thereby increasing play's value in education. The remainder of this entry will provide an overview of the extensive literature on these topics.

Books on theories about play include Brian Sutton-Smith's *The Ambiguity of Play* (1997), which discusses seven play metanarratives: modern forms are play as (1) a showcase of the imagination, (2) a means of self-experimentation and discovery, and (3) progress (i.e., play as a learning medium or a context for growth, development, or psychological adjustment, which is favored by educators). Premodern play forms are (4) competition, (5) games of chance, (6) foolishness, and (7) communal festivities. In addition, Roger Caillois (1961) *Man, Play and Games* identifies vertigo, competition, mimicry, and chance, with discussion about these play forms and their combinations along a gradient from freer (*paidia*) to more controlled (*ludus*) play. Play is uncertain, rule bound, fictive, unproductive, free, and separated from reality. Also, Johan Huizinga's *Homo Ludens* (1955) suggests that culture emerges from the basic human instinct for play; play activity is voluntary, not serious but very absorbing, without material gain, rule bound, conducive to social belongingness, and framed from reality.

Gordon Burghardt (2005) offers a more contemporary, scientific treatment. *The Genesis of Animal Play* informs about the biological, neural, and evolutionary aspects of play and discusses its importance as a source of behavioral novelty and adaptive response: (a) play behavior occurs when the organism is safe, relaxed, and free from extreme wants; (b) play is *autolectic* (i.e., spontaneous, voluntary, intentional, and often pleasurable or rewarding); (c) play is often observable as repeated behavior; (d) play is not purposeless but also not entirely functional in the context expressed; and (e) play is often exaggerated in expression and incomplete, as the final functional elements are dropped. Burghardt's "surplus resource theory" suggests that differences in time, energy, and resources explain the variability in play seen across species and individuals. Burghardt speculates that cultural and educational attainments, and development and civilization itself, are related to play, which is mediated by having available surplus or sufficient levels of time, energy, and resources.

Jean Piaget (1962) and Lev Vygotsky (1978) provide classical, cogent arguments for the importance of play in development and education. Piaget views play as assimilation (i.e., bending or processing reality to fit preexisting cognitive schemata) in complement to accommodation (i.e., modifying cognitive schemata in response to incoming information). Both processes work together to achieve intellectual adaptation. Accommodation is on the cutting edge of new learning, while assimilation integrates and consolidates new learning with the old, making it more meaningful and likely to be used.

Vygotsky sees play as a way of self-scaffolding in the zone of proximal development, enabling children to perform ahead of themselves, which propels learning and development. Like Piaget, Vygotsky views play as important in the development of early symbolization, in self-regulation, and for meeting mastery and control needs that cannot be satisfied in reality.

Educators typically focus on a narrow subset of the wide range of play expression. Play with objects, symbols, and others items, often using one's physical body, is considered under different schemes devised to fit the educator's niche or purpose. For example, in early-childhood education, play that is solitary, parallel, or socially interactive is often nested with physical, functional, constructive, dramatics, or games-with-rules forms to track both the sociality of play and its cognitive form. Block and puzzle play (constructive), simply using toys (functional), or enactments with dolls, with puppets, or in dress-up clothes (dramatic) can occur when the young child is alone (solitary play), near another child playing similarly (parallel play), or in social commerce (interactive play, which can be merely associating, or on a higher level of cooperation, with peers).

As children mature, new and more sophisticated play emerges: sports and dance teams, creative play in theater, camping, nature exploration, crafts, arts and music groups, and intellectual play in debate or chess clubs and in sundry other student organizations. These are all school sanctioned, or *educational*, play, defined as play that is initiated, controlled, and assessed by the teacher, at least to some extent, for on the basis of its educational merit. *Everyday play* is recreational, outside teachers' influence; such "real play" is likely during free play, at recess, or on the playground. In the peer and teacher cultures, play can be cooperative, competitive, illicit, defiant, even mildly or moderately gross, foul, or mean spirited. To remain as play, however, there must be reciprocity and respect between persons. For example, bullying is not play, nor is cruel teasing or tricking a teacher into humiliation.

Play and education are sometimes seen like oil and water—they do not mix. Segregationists relegate play in the school setting to recreational play during recess or breaks on the playground. Even within this traditional, essentialist philosophy with its emphasis on academics and discipline, however, there is tacit recognition that play is needed for children, even if it is not valued as directly serving any educational purpose. Indirectly, play times during the school day provide rest and relaxation for children. And, according to the "cognitive immaturity hypothesis," children's developing brains especially benefit from "distributed versus mass" practice and instruction. Unfortunately, the health, fitness, and well-being of many children are compromised by school district policies that replace opportunities for play with more allocated time for instruction and test taking (Frost, 2010).

Beyond being needed, play in education is also potentially a "value-added" proposition. Play pedagogies entail teacher guidance or direction and aim for learning-full play or playful learning. If they can tie other instructional methods on indices of academic achievement, they are to be preferred when they are also shown to be superior in fostering social and emotional competencies and creativity and problem solving.

This position has a strong backing and appeal in early-childhood education, where it is commonly accepted that play fosters the development of the whole child; in contrast, direct instruction is insensitive, ineffectual, and stress inducing. David Elkind's (2007) *The Power of Play* theorizes and champions the troika of play, work, and love functioning in balance as needed for a harmonious classroom (and family) life for children. Currently, many programs and activities subscribe to this formula and operate value-added play methods of education across age and grade levels.

Postmodern views on play support the value-added position. Thomas Henricks (2001) writes about how the postmodern world is at play and about how play is not an escape but a response to life and the experience of uncertainty, diversity, and change. Play's quirkiness and flux—its nonlinear back-and-forth quality (*Spiel*, the German word for "play," also means "to dance")—is a kind of binary code in the software programs for imagination, creativity, and problem solving so crucial to meeting present-day challenges and unknown future conditions.

Douglas Thomas and John Seely Brown (2011) concur that play is the root of innovation and imagination. Learning to become, rather than learning past information or even learning to be, is of paramount importance in an era of constant, and rapidly accelerating, growth in information and technology. Becoming, and adaptive intelligence in general, needs to be supported by a new culture of learning in which the acts of playing (*homo ludens*), making (*homo faber*), and knowing (*homo sapien*) are

combined and used in real and virtual communities. Play is an essential educative process.

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See also Adolescent Development; Childhood, Concept of; Learning, Theories of; Piaget, Jean

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Popper, Karl

Karl Popper (1902–1994), an Austro-British philosopher, became widely known for his philosophy of science following the publication of his book *The Logic of Scientific Discovery*; and his two-volume text *The Open Society and Its Enemies* brought him to the notice of professional and lay thinkers with an interest in social and political philosophy. Although Popper's reputation was built largely on these publications, during the course of his long working life he developed a much broader view of the growth of knowledge and individual learning than a reading of these books alone would suggest. His collected writings (including 20 books in English) can be viewed as the exploitation of the idea of natural selection in the analysis of the growth of knowledge, the development of traditions and institutions, and individual learning.

Although Popper's influence has been significant in a large number of theoretical fields, core aspects of his work have been rejected by some theorists who have themselves been influential (e.g., Anthony O'Hear and David Stove). Also, although he wrote lucidly, the radical nature of the problems that he formulated and discussed means that his works require very close reading; even some professional theorists have misunderstood key elements of his work.

As a young man, Popper worked as a schoolteacher in Vienna, yet as a professional philosopher, he did not publish a detailed and fully coherent educational theory. Anyone who wishes to read his views on education must seek out the various references to educational matters scattered throughout his works and refer to the reports of two interviews he gave on this topic not long before his death. Relatively few educational theorists and practitioners have explored the implications of his philosophy for educational practice, and despite the profundity of these implications, his work remains largely neglected in the study of education. This entry briefly considers Popper's theory of learning as it relates to teaching and the curriculum and outlines a few implications of his philosophy for research methodology.

Research Methodology

The aspect of Popper's philosophy that is best known among empirical researchers is the idea that evidence that falsifies is hugely significant in the growth of knowledge. What Popper proposed is, however, complex and not widely understood. He drew attention to an asymmetry between the verification and falsification of a universal theory: While no number of true singular statements can verify or prove the truth of such a theory, one true singular statement can refute it. To use a common and basic illustration of this idea, although no number of true statements of the kind "This is a white swan" can verify the universal theory "All swans are white," the statement "This is a black swan," *if true,* will refute it. It is often assumed that Popper asserted falsification as a means of pursuing secure knowledge of what is not the case. But Popper did not suggest that falsifiable claims to knowledge can be refuted conclusively: Judgment is required to decide whether

or not a theory has been falsified, and any judgment is potentially flawed.

To continue the illustration, although the discovery of another white swan logically adds no weight to the universal theory "All swans are white," the observation of a black swan shows that something is wrong. What may be wrong is the universal theory (as in this illustration), in which case we should be inclined to modify or abandon it. Or our observation may be in error. Either way, the situation with regard to our knowledge is not as it was.

It can be seen that there are different ways of dealing with the disequilibrium engendered by an apparent refutation: (a) we might immunize our universal theory by saying, for example, "If it's black, it can't be a swan"; (b) we might deny or ignore the claim that a black swan has been observed; or (c) we might decide empirically to investigate the matter further. The last of these responses might involve a replication study in which further attempts are made to observe black swans under what appear to be similar conditions to those of the initial observation. A replication study, as conceived here, is not designed to confirm the sighting of what is thought to be a black swan but is a more focused attempt to challenge the universal theory "All swans are white." For our knowledge to develop, (c) is clearly the best option, not because it will lead to secure knowledge (it will not) but because it involves further trial-and-error elimination in pursuit of new knowledge. In such a process, the discovery of error or specific limitation is the spur to create something new. Discoveries of error and specific limitation encourage us to create new theories, new artifacts, and new ways of doing things.

Popper argued not only that all knowledge is conjectural but also that all attempts to justify particular claims to knowledge are futile. No claim to knowledge is warranted by seemingly compelling evidence or good reasons. With regard to the role of reason in the growth of knowledge, Popper developed a new form of rationalist epistemology, *critical rationalism*, whereby reason serves not to justify claims to knowledge; instead, its role lies in the criticism and, more broadly, the evaluation of such claims. Popper's antijustificationism is best understood as a skeptical form of fallibilism (and by implication, a skeptical form of *post*positivism). As clarified by David Miller, fallibilism rejects the quest for conclusive justification and certainty, but skeptics—such as Popper—go further and reject even the quest for partial justification. Miller further distinguishes Pyrrhonian skeptics, who advise against making any judgments about the worth of hypotheses, from optimistic skeptics such as Popper and others, who proceed on the understanding that some hypotheses are sometimes better than others.

Insofar as Popper's account of the nature of science in terms of testability has historically had practical significance in education research, those who have attempted to adopt his ideas have often been accused of being positivistic. But Popper was most definitely not a positivist. Unlike the logical positivists, he never demarcated sense from nonsense, and although he demarcated scientific theories and nonscientific theories—the former being in principle refutable by reference to empirical evidence and the latter not being testable in this way—he did not dismiss the potential value of unfalsifiable theories, and he stressed the importance of metaphysical research programs. Metaphysical theories, such as realism, have a significant bearing on what we do; they can be critically discussed, and many such theories are used in the development of science.

Learning, Teaching, and the Curriculum

In the same way that the discovery of error (or specific limitation) is a stimulus to the growth of knowledge in the public domain, so too it is a stimulus to growth in respect of an individual's learning. Contrary to the common assumption that learning involves the absorption of informational elements from the environment (be it physical or social), Popper argued (building on the work of Otto Selz) that we learn only through trial-and-error elimination and that new ideas are generated by the learner when errors (or, one may add, specific limitations) in current expectations (the learner's knowledge) are discovered. New expectations, preferences, ideas, and theories are never the result of a process in which informational elements have been transferred and in which the learner is to some degree passive; rather, according to Popper, they are created by the learner under environmental and/or internal selection pressure (the latter including, in the case of much human learning, the consequences of thought experiments). To understand this thesis, it is crucial to recognize that we are conscious of a comparatively small proportion of the processes in which we engage. It may seem that our conscious minds are regulating all or most of our learning activities, but this is an illusion.

It follows that while we may call what a teacher does "instruction," when students learn in response

to instruction this does not mean that any informational elements have been transferred from the teacher to the students. Rather, what the teacher has said or done must have challenged the students' assumptions in some way and provoked them to engage in trial-and-error elimination—a critical and creative process of (mostly implicit) problem solving.

Those Popperian educationists who view the purpose of education primarily as the continuing development of existing traditions of objectified knowledge favor what Richard Bailey has called the criticalist curriculum. With a criticalist curriculum, students are introduced to a prescribed curriculum of ideas that are considered by the curriculum designers to be particularly important and, in contrast to what mostly happens in the teaching of conventional school curricula, students are encouraged to criticize the ideas with which they are presented. Initiating students into the practice of critical discussion enables them to become better able to reassess and facilitate the development of their cultural heritage. Other Popperian educationists, such as Tyrrell Burgess and Joanna Swann, who view the primary purpose of education as the open-ended—though not unconstrained or unevaluated—development of the individual are inclined to favor student-initiated curricula over what they see as the excessive use of prescribed curricula. Student-initiated curricula—whereby students take responsibility for the content of their formal programs of study—support the development of full learner autonomy by encouraging students to engage in self-initiated, self-directed, and self-monitored trial-and-error elimination.

Joanna Swann

See also Philosophical Issues in Educational Research: An Overview; Positivism; Postpositivism

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Positive Psychology and Education

Positive psychology or "the new science of happiness" claims to be nothing less than the scientific study of optimal human functioning. It was officially launched as a field of study in 1998 by Martin Seligman, president of the American Psychological Association and acknowledged founder of the discipline. Since then, positive psychology has "caught on" with remarkable speed, and it is now taught in hundreds of university and college courses across Britain and North America, as well as in English secondary schools in the form of "social and emotional intelligence." However, the project is a controversial one. This entry considers the theoretical basis of positive psychology and the main objections that have been raised against it.

The central thesis of positive psychology, as outlined by Seligman, comprises the twin assertions that happiness ("authentic happiness," not merely hedonistic pleasure) can be achieved if people utilize the positive personality or character traits they are endowed with—their "signature strengths"—in absorbing, purposeful activity, and that a positive, optimistic attitude helps people achieve their goals. The assumptions that underlie this thesis are that

1. happiness is the ultimate good, goal, or end for which we strive;
2. happiness can be defined as or in terms of the positive emotions and pleasant feelings we experience about our lives; and

3. happiness, so defined, can be operationalized as a variable, measured in tests of "subjective well-being," and empirically investigated so as to establish the factors and conditions that stand in causal relation to it.

Many of positive psychology's assertions could not reasonably be disputed—for example, that people who have (or who enjoy) absorbing work, close relationships, good health, and a sense of purpose in their lives are happier than those who do not. These are almost truisms. But positive psychology goes further. People who are more positive and optimistic in their attitudes are happier, more "resilient," and more likely to achieve their goals, whereas pessimists tend to worry about the future, blame themselves when things go wrong, and give up. The task is therefore to develop in pessimists a more optimistic "explanatory style"—and hence make them happier. However, objections can be raised on both psychological and philosophical grounds.

Positive psychology proclaims its independence from the rest of psychology, which it either ignores or (as in the case of humanistic psychology) accuses of lacking empirical foundation. However, there is a growing body of empirical evidence in personality ("trait") psychology to support the dominant five-factor model according to which the characteristic dispositions or traits that have the highest predictive validity as causal influences on behavior are not "optimism" and "pessimism" but "extraversion" and "introversion." And though extraverts do indeed tend to be more optimistic than introverts, and experience a more positive mood (which can be explained by physiological differences in subcortical reward systems), both are considered *normal* personality types. There is ample research (much of it documented by Susan Cain) to show that introverts are just as successful and fulfilled as extraverts, which suggests that optimism is not the straightforward explanatory variable Seligman has supposed it to be and that positive mood is not necessarily synonymous with ultimate happiness.

The main philosophical objection to the positive psychology project is that the term *happiness* cannot be conceived or defined—even less measured—in the terms proposed. Though we might find the pursuit of John Stuart Mill's "higher pleasures" absorbing or compelling, do they necessarily bring happiness? Can we even regard them at all as instrumental to some preconceived end? If we follow Alasdair MacIntyre in conceiving absorbing activities as practices whose goods are internal (i.e., are only revealed as we develop mastery of the practice concerned), there is no extrinsic end to our engagement in them. So, for example, to live the life of an artist is its own reward. Acts of compassion, heroism, and self-sacrifice are even more problematic. Though some altruistic acts can no doubt be explained by invoking the pleasure principle, there are other acts that can only be explained by a person's deep sense of duty, principle, or belief. In fact, to do what you believe is right is to act *ethically*. It is to believe that there are goods, values, and ends that are not instrumental to happiness but, again, are *ends-in-themselves*. They are *unconditionally* good.

In Aristotle's classic formulation of the good life in these terms, the ultimate end-in-itself is the state of eudaimonia. Proponents of positive psychology frequently equate happiness with eudaimonia, and people's "signature strengths" with the Aristotelian virtues. But whereas in positive psychology people merely have to utilize the "signature strengths" they are naturally endowed with, in the Aristotelian scheme the moral virtues necessary to attain eudaimonia must be habituated by initiation into a moral and cultural tradition. On the other hand, human ends may themselves be plural and heterogeneous. It might be argued, contra Aristotle, that moral dilemmas, moral conflict, and tragedy are inescapable features of the human condition. There is no "optimal solution" to human life.

The objections outlined here all share a concern that people's experiences, emotions and attitudes cannot be polarized into positive (good) and negative (bad); that suffering, regret, guilt, and so forth are essential to human growth; and that the totality of an individual's personality, the full context of an individual's life story and social circumstances, must be considered when identifying what might count as fulfillment, well-being, or mental health. A particular concern of some commentators is positive psychology's promotion of optimistic illusions of reality. Barbara Ehrenreich notes that dire consequences can follow from people's optimistic delusions about reality (witness the financial crash of 2008) and warns that the demand for positive thinking—for in the sense of blind optimism—is an established tool of totalitarian repression.

Proponents of positive psychology cite the established techniques of cognitive-behavioral therapy, which have proved highly effective in enabling

people suffering debilitating anxiety disorders to break vicious cycles of negative thinking. The question is whether the lessons of these extreme cases can be generalized to apply to the rest of the population. Indeed, should education aim at all to equip pupils with a toolkit to maximize happiness? Or is it better to habituate the virtues and teach through the old humanities those stories and lessons of human experience that reveal most about the human condition?

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See also Aristotle; Happiness; MacIntyre, Alasdair; Mill, John Stuart; Virtue Ethics

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Positivism

Positivism is a social, cultural, and philosophical movement that began in the second half of the 19th century in Europe. In slightly different guises (logical positivism and logical empiricism), it dominated philosophy through the mid-20th century. For the past 50 years, it has been criticized from many sides, and especially it has been criticized and shunned in the field of education and particularly in educational research, where (as has often been noted) it is common to use the word as a general term of abuse, as a label for any position a commentator opposes. However, accounts of its life are oft mistaken, and announcements of its death are premature. This entry presents a brief account of positivism from its origins in the philosophy of the Enlightenment to its systematization by the Vienna Circle of logical positivists. It continues with an examination of its current unpopularity among educators who reject positivism as a failed ideology; and, in a review of the writings on education of two foundational positivists, it finds grounds for a reevaluation of the relationship between positivism and educational theory.

Origins

Positivism was born in an age that witnessed nonstop scientific advances in physics, biology, chemistry, and astronomy, along with massive technological, industrial, and civic transformations. The term *positivism* was first used by the social theorist Henri de Saint-Simon (1760–1825) to designate these progressive, positive features of the age. The philosophers Auguste Comte (1798–1857) and John Stuart Mill (1806–1873) bolstered this early positivism; Comte, in particular, was a foundational figure, arguing that the empirical methods of observation and experiment that were proving to be so fruitful in the positive sciences should become the model followed in other realms of inquiry such as sociology (a term that he coined).

Positivists looked to and valued science rather than religion and metaphysics, their focus was humanity and society rather than God and the church, they strove for salvation and redemption in this world rather than in any purported afterlife, and they built a utilitarian ethics based on promotion of human happiness and welfare rather than on obedience to any religious or metaphysical doctrine. Positivists believed in the possibility of progress across the board: in human life, medicine, social institutions, and cultural components, such as art, music, and literature. They were self-consciously in the tradition of the 18th-century Enlightenment philosophers and cultural critics.

The positivist philosophical program took its canonical form when the term *logical positivism* was used to designate the 1920s work—inspired by Ernst Mach—of the Vienna Circle of Moritz Schlick, Rudolf Carnap, Otto Neurath, Philipp Frank, and the circle's English popularizer, Alfred J.

Ayer. Their staunch antimetaphysical position was reflected in their "verification theory of meaning," according to which a statement or hypothesis with no apparent means of verification was judged to be meaningless—a fate that, at their hands, befell many of the traditional problems of philosophy.

Rejection of Positivism Among Educators

It is an understatement to say that positivism has been unpopular among educational theorists and philosophers for several decades. (Prominent educational critics of positivism in the late 20th century and their misinterpretations of it—which still live on—are discussed in Phillips, 1987, chap. 8.) Among the many critiques, positivism was, and is, thought to be a narrow-minded cultural, philosophical, and educational malady. Claims that positivism has led to social inequality with respect to class, race, and gender and to human domination over the natural world and that the culture of positivism has become a dominant ideology and unfortunately now represents an integral part of the social and political system of the United States are easy to find in the education literature.

Sometimes, too, the broad and false accusation is made that any researcher who suggests that educational research can be rigorous and scientific must be a positivist; this is only true if the individual concerned accepts the narrow analysis of science given by the early positivists (albeit given for nontrivial reasons). It is sometimes argued, for example, that researchers who are seeking to uncover the causes that underlie educational phenomena are thereby to be indentified as positivists, whereas, in fact, positivist dicta proscribe seeking what "lies behind" phenomena—as Comte made very clear (his fear was that seeking unobservable causes would open the way for unbridled metaphysical speculation).

However, as educational theorists dismiss positivism with barely a look back, there is under way in philosophy a serious reconsideration and reevaluation of the position, as can be seen in the publications of Michael Friedman and Thomas Uebel. This reevaluation is not so much seeking to raise positivism from its philosophical and educational grave as it is attempting to look again at the scientific, philosophical, and cultural roots of positivism; to examine positivist writings that have had only limited exposure; to reexamine canonical texts and see if standard or orthodox interpretations of them are adequate; to see how faithful is the "popular" or "tabloid" view of positivism; and, as Lenin once said, to see what is living and what is dead in positivist philosophy and its educational prescriptions.

Canonical Positivism and Education

The educational writings of two foundational positivists, Philipp Frank and Herbert Feigl, substantiate the claim that the populist and educational (and simplistic) vision of positivists as being narrow, illiberal, and scientistic—alluded to above—is in need of complete revision.

Philipp Frank was born in Vienna in 1884 and died in Cambridge, Massachusetts, in 1966. In 1907, he received his doctorate in theoretical physics at the University of Vienna, where he studied under Ludwig Boltzmann. Frank's first article, published in 1907 at the age of 23—"Experience and the Law of Causality"—characterized his subsequent philosophical concern: namely, prolonged and informed philosophical reflection on the structures, methodology, and history of science.

Frank (1949) regrets that the "result of conventional science teaching has not been a critically minded type of scientist, but just the opposite" (p. 230). In part, this regret is because "the science student who has received the traditional, purely technical instruction in his field is extremely gullible when he is faced with pseudophilosophic and pseudoreligious interpretations that fill somehow the gap left by his science courses" (p. 230). As a consequence, "this failure prevents the science graduate playing in our cultural and public life the great part that is assigned to him by the ever-mounting technical importance of science to human society" (p. 231).

It is of course the history and philosophy of science that makes good these shortfalls; or rather, for Frank (1949), just philosophy of science because this indeed consists of two inseparable components, "logico-empirical analysis" and "socio-psychologic" analysis (p. 248). The first is conceptual or semantic analysis, the second is careful historical analysis. According to Frank, "this analysis is the chief subject that we have to teach to science students in order to fill the gaps left by traditional science teaching" (p. 245).

Logico-empirical analysis of scientific theories consist primarily in identifying (a) purely logical statements and (b) observational statements, and (c) specifying operational definitions, whereby principles can be connected to observations (Frank,

1949, p. 243). The article gives examples of such analyses of the Copernican controversy, Euclidean and non-Euclidean geometric systems, Newton's laws, relativity theory, and quantum theory. Frank (1949) wants students to be able to decouple observational statements and statements that are deduced from these: "For in all these fields the central problem is the relationship between sensory experience (often called fact finding), and the logical conclusions that can be drawn from it" (p. 234). He uses the Copernican controversy to illustrate his point:

> If we look, for example, at the treatment of the Copernican conflict in an average textbook of science, we notice immediately that the presentation is far from satisfactory. In almost every case, we are told that according to the testimony of our senses the sun seems to move around the earth. Then we are instructed that Copernicus has taught us to distrust this testimony and to look for truth in our reasoning rather than in our immediate sense experience. (p. 231)

Frank (1949) says that this account is mistaken and can be shown to be so by logico-empirical analysis: "Actually our sense observation shows only that in the morning the distance between horizon and sun is increasing, but it does not tell us whether the sun is ascending or the horizon is descending" (p. 231). The statement that "the sun is moving" is an elaboration of sensory evidence; it is not *the* sensory evidence; it is what Paul Feyerabend (1975) would later call a "natural interpretation" of the sensory experience (chaps. 6 and 7). Frank is saying clearly that theory affects observation; the engaging philosophical task, and one empiricists are committed to, is to ascertain whether there is a level of observation statements that are not so affected.

For Frank (1949), logico-empirical (semantic) analysis of science is not the full story: "We have to learn not only the operational meaning of symbols like *force* and *mass*, but also how it has come about that just these symbols were chosen" (p. 248). Philosophy of science requires a second form of analysis, what he calls a "socio-psychologic" analysis. He sees psychological, religious, social, and political factors all contributing to "the determination of our scientific symbolism" (p. 248).

Frank is an advocate of liberal education, affirming that a variety of subject matters should be mastered and that, as much as possible, relations between the subjects should be brought out. He believes that humanities can be taught from *within* science:

> The student of science will get the habit of looking at social and religious problems from the interior of his own field and entering the domain of the humanities by a wide-open door . . . there is no better way to understand the philosophic basis of political and religious creeds than by their connection with science. (Frank, 1949, p. 281)

Herbert Feigl (1902–1988), an Austrian philosopher who studied philosophy and physics in Vienna under Moritz Schlick and who later taught at the University of Minnesota, regards promotion of individual autonomy as the prime educational achievement (Feigl, 1955, p. 322). Not surprisingly, he advocates teaching science in a historically and philosophically informed manner:

> It is my impression that the teaching of science could be made ever so much more attractive, enjoyable, and generally profitable by the sort of approach that is more frequently practiced in the arts and the humanities. The dull and dry-as-dust science courses can be replaced by an exciting intellectual adventure if the students are permitted to see the scientific enterprise in broader perspective. Preoccupation with the purely practical values of applied science has overshadowed the intellectual and cultural values of the quest for knowledge. (Feigl, 1955, p. 337)

There is clearly a disjunction between the faults of positivism as commonly adumbrated by educators and the principles and practice of education, particularly science education, advocated by Frank and Feigl. Educators are better served by returning to and reading the sources than by repeating antipositivist slogans applicable only to caricatures of the position.

Michael R. Matthews

See also Behaviorism; Educational Research, Critiques of; Mill, John Stuart; Popper, Karl; Postpositivism

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Postmodernism

The term *postmodernism* is commonly used to refer to the ideas of writers and thinkers who react against or criticize aspects of modernity—the period beginning with the scientific revolutions of the late 16th century and lasting until now. Recently, we have been living in what some people call late modernity, or postmodernity. People impressed by postmodernism may be called postmodernists. They seldom refer to themselves in this way because, for reasons that will become clear later in this entry, they are reluctant to be thought of as having a conclusive doctrine. (Not to be confused with modernity, or with postmodernism, with which it shares some features, is modernism in art, a movement dating from the late 19th century.) This entry traces the origins of postmodernism, follows the elaboration of its themes in the works of two influential postmodern theorists, and concludes with a statement of its implications for the theory and philosophy of education.

Modernity, as noted, begins with what is called the Era of Scientific Revolutions—with, for example, William Harvey's discovery of the circulation of blood, Robert Boyle's and Robert Hooke's laws of gases and springs, Galileo Galilei's development of the telescope and demonstration that the earth goes round the sun, and the work of mathematicians such as Gottfried Wilhelm von Leibniz and, later in the 17th century, Isaac Newton. Another important figure in the foundation of modernity is René Descartes, who was both a significant mathematician and a philosopher. The discoveries and inventions of this era were so impressive that science, together with the mathematics that it uses, became the model of worthwhile knowledge.

Science offers certainty, and this was especially attractive at a time of turmoil and disaster throughout Europe. The Thirty Years' War, starting in 1618 as a doctrinal conflict between Catholics and Protestants, resulted in the deaths of one third of the population of central Europe. In England in the middle years of the century, roughly 10% of the adult male population died in a civil war that contested, in part, the divine right of King Charles to rule and ended in his execution, which many feared would offend God and threaten the stability of the universe. The ideas and methods of science seemed to be something that all rational people could subscribe to as the basis for peace, in place of religious conflict and superstition.

Science itself, however, became almost a religion. The movement known as the Enlightenment, which stretched over and beyond the 18th century, tended to see science as the solution to everything. The prestige of science has continued until today: Consider, for instance, how many advertisements claim that "science has proved" the value of their product or how in education the quality of a school tends to be equated with its position on a league table (a table of school performance ratings), as if "scientific" calculations based on children's scores in public tests and examinations could tell anyone whether they were getting a good education or not. Note that it is modernity's worship of science and measurement that postmodernism is chiefly critical of, not science itself.

Let us now turn to the work of two writers, both French, who are widely regarded as preeminent among postmodernist thinkers: the philosopher, literary theorist, and sociologist Jean-François Lyotard (1924–1998) and the philosopher Jacques Derrida (1930–2004).

Lyotard

Jean-François Lyotard's influential work *The Postmodern Condition: A Report on Knowledge* was published first in French in 1979 and then in English translation in 1984. Lyotard was responding to a commission by the Quebec government to report on how knowledge is conceived in advanced

societies, especially under the influence of technology. Lyotard thought that information technology was having a damaging effect on the way we think of learning and knowledge, which become assimilated to "data"—whatever can be translated into binary code and stored on a computer. In consequence, according to Lyotard, other kinds of knowledge and understanding, such as our understanding of a film or a novel, or our ordinary knowledge of other people, risk being marginalized or thought of as somehow second-rate. Another result of the computer age is what Lyotard calls *performativity*. Where we have the vast amounts of data that computers make possible, there comes the possibility of demanding ever more *efficiency*, understood as getting the most out by putting the least in. Along these lines, better teaching would simply be a matter of improving examination results for the greatest number of pupils. He writes, in ironic spirit, "The true good of the system . . . is the optimisation of the global relationship between input and output" (Lyotard, 1984, p. 11).

A memorable and chilling example of performativity occurred at a British hospital in 2006. An inspection revealed that "congealed blood was smeared on seats in the patients' waiting area, the lavatory floors stank of urine, and grime was encrusted on the sinks used by doctors and nurses" ("Staffordshire Hospital Scandal," 2009). How had this state of affairs come about? Management was focused on achieving the prestigious status of a "foundation trust" hospital and

> had become obsessed with meeting Government targets rather than looking after the sick in its care. . . . An analysis of the trust's board meetings from April 2005 to 2008 found discussions were dominated by finance, target and achieving foundation trust status. ("Staffordshire Hospital Scandal," 2009)

Of course, we do not need to be postmodernists to deplore this. But Lyotard gives us a way of understanding the kind of mind-set, ultimately based on financial data and what can be measured, through which it could have come about.

Lyotard also reminds us that performativity entails uniformity. Without uniformity, comparisons between schools, between hospitals, and so on would not be possible. He called comparability based on uniformity "commensurability" and noted how it is bound up with power (the power of those who do the measuring and the calculating) and threat (the threat hanging over those who do not, as we say, "measure up"):

> The legitimization of power is based in optimising the system's performance—efficiency. The application of this criterion to all our games [i.e., activities] necessarily entails a certain level of terror, whether soft or hard: be operational (that is, commensurable) or disappear. (Lyotard, 1984, p. xxiv)

The language is not excessive. Schools that are deemed to be "failing" face closure. So do university departments whose research is judged to be not up to scratch (they are not "operational," to use Lyotard's term).

We have here a kind of totalitarianism. The modernist mind-set expects knowledge to be a unified and coherent system in which every part can be compared—that is, can be commensurable—with every other part. We expect there to be just one, single "scientific" method of arriving at knowledge, with the corollary that knowledge is always and everywhere the same kind of thing. It will conform to the model of naive science, in which to know the world is to represent it as it really is when the light is, so to speak, turned on (the metaphor of "Enlightenment") and shadows and superstitions are dispelled. It takes only a little thought to realize that this is problematic, especially in areas outside the physical sciences. In mathematics, you cannot find a "2" and then another "2" in the "real world" and *discover* that they are a "4." In the study of history, there is no objective fact that proves that inflation in Germany in the 1920s was a major factor in the rise of Nazism. This, like much important knowledge and understanding, is a matter of *interpretation*. To be too impressed by the idea of knowledge reflecting "how the world really is" is to risk giving power to those who claim the right to determine what counts as "reality" and what counts as a good representation of it. Postmodern knowledge, by contrast, is "not simply a tool of the authorities; it refines our sensitivity to differences and reinforces our ability to tolerate the incommensurable" (Lyotard, 1984, p. xxv).

In the moving final passage of *The Postmodern Condition*, Lyotard (1984) writes, "Let us wage a war on totality; let us be witnesses to the unpresentable; let us activate the differences and save the honor of the name" (p. 82). He calls on us to reject views of knowledge as one single, no doubt scientific, kind of thing; to stand up for what we find valuable but cannot present any indisputable

warrant for (e.g., the value of art); and to relish the particularity and difference of people and of things, rather than regretting, for instance, that other people are not like us. Then we will start thinking in ways that deserve being called "thinking."

Derrida

The French philosopher Jacques Derrida is variously thought of as a poststructuralist and a postmodernist. To understand what poststructuralism is, it is necessary to grasp the elements of structuralism. The Swiss linguist Ferdinand de Saussure (1857–1913) is usually regarded as its founder. He asked how language has meaning. A naive view might be that for a word to have meaning is for it to label or refer to something: The meaning of *dog* is given by the physical being, the dog, at this moment lying at my feet. Language, however, does not always work in this way. There are no physical *ands*, *whens*, or *Saturdays* for the words to refer to. Even the word *dog* can have meaning without a direct referent, in particular when it is a verb ("I fear Moriarty will dog my footsteps wherever I go"). So far from simply mirroring the world, Saussure insists, language has meaning by way of relations of difference. *Saturday* does not have meaning by virtue of some mystic "Saturdayness" (visiting a garden center, playing sports, not being at work). Rather, being Saturday is a matter of not being any of the other days of the week. Similarly, dogs are dogs by virtue of not being cats, horses, or badgers. A dog by any other name (e.g., *un chien*, as the French call it) would be just as loyal, warm, and four-footed. A rose by any other name, as Shakespeare wrote, would smell as sweet.

In Saussure's structuralism, the sign (a rose) joins the signifier (the word *rose*) and the signified (the concept of a rose) in wholly arbitrary ways. To think of Derrida as a poststructuralist is to note that he takes Saussure's views much further. For Derrida, the arbitrariness of meaning shades into instability. The word *disinterested* supplies a current example. We might have come up with other words to describe the lack of bias that is constituted by having no personal stake in the matter (the football referee is disinterested if he is not a supporter of either team and has not placed a bet on the result of the game). At the moment, the word is unstable, being apparently in the process of coming to mean the same as *uninterested* (i.e., bored).

Consider the meaning of a poem or a play. We do not imagine that there will come a day when we can say, "Now we know exactly what that poem means," so that any further thought about it is deemed to be a waste of time. It is always possible to offer new interpretations and, indeed, interpretations of those interpretations. Every generation rereads Shakespeare's *Hamlet*, for example, in light of its own time and preoccupations. Or consider what we make of a historical figure such as Karl Marx. Does his name signify the originator of a failed and inhuman political system or an economist whose warnings against unregulated and predatory capitalism are beginning to seem prescient? It is—as the Chinese premier Zhou Enlai is supposed to have said about the meaning of the French Revolution—too early to tell, and on the poststructuralist account, it is *always* too early to tell finally and definitively.

Derrida identifies a tendency that he calls *logocentrism*: our propensity to look outside language, or a text, for something to guarantee its meaning. Someone might say (perhaps in exasperation) that "it stands to reason" ("reason" is *logos* in Greek) that Marx was a failure since the Soviet Union collapsed; that the meaning of a speaker's words must lie in his intentions; or that "in the real world" dramatists such as Shakespeare write to make money. In all these cases, there is a determination to pin meaning down to something beyond language. Here again is the quest for certainty that is one of the central features of modernity.

Derrida opposes the idea he finds at the root of structuralism, that while language is a system of differences the system itself can be thought of as fixed and closed, like an ideal map. "Man" and "woman" are in this view eternal opposites, and the meaning of the one word is always a matter of not being the other (a view rendered problematic, of course, by the existence of transgender people). Derrida notes that meaning is always postponed. Although language is a system of differences, the system itself is never stationary. Western thought is prone to setting up binaries in which one of the pair is superior to the other. The binary man/woman generally assumes the superiority of the first term (think of a "master class" in music). With many binaries, such as reality/appearance, presence/absence, heterosexual/homosexual, and literal/metaphorical, it comes naturally to us to think of the first term as prior and the second as derivative or secondary. Derrida offers readings of texts where these binaries are reversed or fall apart altogether. These readings constitute the kind of criticism that he calls *deconstruction*.

A famous example is Derrida's reading of Plato's dialogue *Phaedrus*. This includes the theme of binary speech/writing and of the supremacy of the spoken word over the written word. Speech, Plato has Socrates tell the young man Phaedrus, is closer to thought than writing is. Speech is the immediate outcome of thought, while writing often simplifies or complicates the original thought and does not get it right. Moreover, although you can ask a speaker what he meant, a piece of writing maintains a sullen silence in the face of questioning. This is partly why the *Phaedrus*, like most of Plato's texts, is written as a dialogue or conversation, as if spoken. Nevertheless, it is a written text (otherwise, we would not have access to it), full of literary devices. The binary in which speech is foregrounded over writing begins to look less than secure. In helping us see how much more of our understanding and knowledge is a matter of interpretation rather than a certain and secure grasp of the "real world," Derrida is as much a postmodernist as a poststructuralist.

Conclusion

These ideas are important for education. Lyotard and Derrida show us ways to challenge those who expound glib and superficial ideas; who tell us that the purpose of education is to equip young people with skills "for the real world," the nature of reality being thus apparently wholly unproblematic; who assume the right to silence people they position on the other and inferior side of a binary (e.g., progressives/traditionalists, theorists/practitioners, liberals/communitarians); or who imagine that postmodernism can be dismissed as an "anything goes" philosophy.

Richard Smith

See also Deconstruction; Lyotard, Jean-François; Positivism; Postpositivism

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POSTPOSITIVISM

Postpositivism is a broad epistemological position with strong implications for educational and social science research; it evolved during the 20th century, during the slow decline of positivism—hence the "post." It needs to be emphasized at the outset that it is not a type of "super" or improved positivism but is, rather, a successor and a replacement. Given this, the discussion needs to start with positivism itself and the problems that led to its decline—for this is the historical context in which postpositivism evolved.

Positivism, and Why It Was Attractive

Historically, Western epistemology has been foundationalist; the assumption was that to be valid, our knowledge claims must have a solid basis, foundation, or reliable source. Only two types of foundation have seemed to be possible, *reason* and *sense experience*, and of course, these were at the core of the two great opposing Western epistemological traditions—rationalism and empiricism. Positivism was a "purist" form of empiricism, and logical positivism was a particularly "hard-core" form of positivism. (It should be noted that the key empiricist belief

that sense experience is the solid basis or foundation for our knowledge can mean that either [a] sense experience is the source from which all our knowledge is *built up* or [b] sense experience provides the tests and criteria by which we *verify or establish* that our knowledge claims are correct. Both of these readings can be found in the history of empiricism.)

It is clear that positivism, including especially its logical positivism variant, had a significant impact on educational research over perhaps four or more decades in the middle of the 20th century, and some scholars argue that its influence still can be detected today. Certainly, there is no dispute that the behaviorism that was dominant (and remarkably productive) in educational psychology around midcentury was deeply influenced by logical positivism (B. F. Skinner, the pioneer of "operant conditioning," had been introduced to positivist philosophy in courses in graduate school).

The problems faced by positivism shall be outlined in the following paragraphs, but it needs to be stated here that after it died, or at least withered, it was succeeded by a number of "postpositivist" positions. The postpositivism that is emphasized in this entry has some affinities with the work of Karl Popper, Israel Scheffler, and others; and crucially, it is *neither* rationalist nor empiricist but is *nonfoundationalist*. In the words of Popper (1965),

> The question about the sources of our knowledge . . . has always been asked in the spirit of: "What are the best sources of our knowledge—the most reliable ones, those which will not lead us into error, and those to which we can and must turn, in cases of doubt, as the last court of appeal?" I propose to assume, instead, that no such ideal sources exist . . . and that *all* "sources" are liable to lead us into error at times. And I propose to replace, therefore, the question of the sources of our knowledge by the entirely different question: *"How can we hope to detect and eliminate error?"* (p. 25)

Here, Popper was rejecting both forms or readings of empiricism—sense experience was not a fully reliable "source," nor was it a fully reliable "last court of appeal" for purposes of verification. Acting on our beliefs and noting the consequences (presumably via our subsequent experience) cannot reliably verify our beliefs but can at best allow us to "detect and eliminate error." It is worth noting that there is some similarity here with the philosophy of William James, John Dewey, and the other classical pragmatists, for according to them, an item was not accepted as knowledge in light of its *origin or source* but as a result of the *consequences that followed from it being used or acted on*; but crucially, the resulting knowledge was not something with which we could "rest," but it was always likely to be revised or abandoned whenever future action had consequences that led us into new difficulties. For the pragmatists, "theories thus become instruments, not answers to enigmas, in which we can rest" (James, 1907/1974, p. 46). In this respect at least, the classic pragmatists were close to being nonfoundationalists.

Another major feature of logical positivism, related, however, to its empiricist foundationalism, was its extreme hostility to metaphysics, which was judged to be destructive of science. The positivists held that sense experience was the objective, value-free foundation of scientific, and indeed of all, knowledge. The problem with metaphysics, in their view, was that metaphysical disputes cannot be settled empirically, because they referred to entities and processes that lay beyond the physical realm, and thus metaphysical hypotheses were not observable and certainly were not testable; and because of this, true and false hypotheses could not be distinguished from each other, and so (it seemed to follow from this that) these hypotheses were literally meaningless. The logical positivists, as is well known, were operating with a "verifiability criterion of meaningfulness," according to which only statements that could in principle (but not necessarily in practice) be empirically verified were meaningful. (Sometimes the mistake has been made of holding that Popper was a positivist because he had a view that at a superficial glance seems identical but that in fact was profoundly different—he posited a *testability criterion for demarcating science from nonscience*, according to which nontestable propositions were nonscientific but crucially were still meaningful.)

Factors Leading to the Downfall of Positivism and Logical Positivism

Over the years, all the main aspects of positivism have been undermined, and of course, this is what has led to its widespread abandonment (even if a few positivist attitudes still are harbored by some in the educational research community). In summary form, the chief developments have been the following (see Phillips & Burbules, 2000).

The view that sense experience (observation or perception, data recording, etc.) is a "pure,"

objective foundation on which knowledge can be built was undermined by the realization that perception is theory laden. Thus, for example, two observers who hold different theoretical positions may actually perceive different things when looking at the same phenomenon, for their theories define what is important and what can be ignored, what is central and what is peripheral. In a sense, what is seen depends on what is believed.

The role played by theories and background assumptions is often unconscious, as illustrated by the psychological experiment with the so-called "anomalous playing cards": It is part of the background knowledge of many people in the modern world that a deck of cards contains two types of red cards ("hearts" and "diamonds") and two types of black cards ("spades" and "clubs"). Slides were made of a number of cards, one of which had been given the wrong color (e.g., a black "six of hearts"); these slides were then shown, with extremely rapid exposures, to a number of subjects in an experiment. The individuals were able to successfully identify all of the cards except the anomalous one, which appeared to them to be out of focus or brown or smudged. The special slide had to be shown for quite a long exposure before it could be identified accurately. The point of this study is that here the background knowledge that the "six of hearts" is a red card was coming into conflict with the visual experience, which was of a black "six of hearts"; and the study shows that what individuals perceive is not purely a function of what is received by the sense organs but that background knowledge and beliefs and so forth are also involved.

The view that empirical data is the firm, objective foundation for knowledge was also confronted with the difficulty that theories, hypotheses, or knowledge claims are *underdetermined* by a given set of evidence. Put simply, a finite set of empirical evidence E is compatible with (can be accounted for by) a number of different theories or hypotheses T1, T2, T3, and so on, so that choice of a theory (say T1) must involve *more than* appeal to the set of evidence E. The most common examples, perhaps, come from medicine: The symptoms/evidence displayed by a patient (e.g., high temperature, vomiting, soreness in the abdomen) can often be explained by several hypotheses—maybe she has the flu or a ruptured appendix, or is suffering from food poisoning. The same phenomenon of underdetermination is also the source of occasional problems in the field of criminal justice—finding a person guilty of a crime on the basis of "circumstantial evidence" is somewhat risky, for there may be other (at the moment unknown) individuals who also fit this evidence.

Another problem for the view that theories or hypotheses are established straightforwardly by empirical evidence is the traditional problem of induction. If the hypothesis or theory makes a generalized claim (e.g., "All X are Y"), then this is a claim that no finite set of empirical data can establish because—unless X is a very small set—"all X" will not be able to be observed. In other words, generalized claims usually go *beyond* the empirical evidence that is available. Thus, for example, Piaget's claim that *all* children, in the course of their development, pass through the same "developmental stages" was not conclusively supported by the evidence he presented, which obviously had not been collected from all children but only from an extremely small sample (and, it can be remarked, not a random sample).

Finally, the logical positivist "verifiability criterion of meaning" generated a great deal of controversy. For one thing, it was not clear how such a criterion could be validated. And, as Popper and others held, just because a proposition or hypothesis is not empirically testable, it does not make it meaningless; thus, metaphysical theories are not empirically decidable, but they certainly can be discussed and criticized, and they certainly have an impact on the lives of many individuals, so it seems extremely harsh to arbitrarily call them "meaningless."

The Main Features of Postpositivism

As briefly mentioned above, as positivism withered, it was replaced by a variety of often overlapping philosophical positions; and speaking accurately, these are all "post"-positivistic. The one being described here as a fruitful philosophical basis for assessing educational research, however, is the one that in the education literature has often been labeled "postpositivism," so this usage will be adopted without further comment. Its chief features are as follows.

First, and as stressed earlier, this postpositivism embodies a *nonfoundationalist epistemology*. Popper's (1965) words are clear:

> But what, then, are the sources of our knowledge? The answer, I think, is this: there are all kinds of sources of our knowledge, but *none has authority.* Thus the empiricist's questions, "How do you know? What is the source of your assertion?," are

> wrongly put. They are . . . *entirely misconceived*: they are questions that beg for an authoritarian answer. (pp. 24–25)

Second, and relatedly, all our claims to have gained knowledge are tentative; there may be other theories or hypotheses (perhaps ones that we have not thought of), apart from the one that we accept, that are compatible with the evidence we have available at the moment and which has led us to accept a particular item as knowledge. And, of course, future investigations might produce new findings that cause us to abandon or dramatically revise the theory or hypothesis that we accept at this moment. In other words, rather than being established with certainty, all our knowledge is *conjectural*.

Third, although the things we currently accept as knowledge cannot be regarded as being indubitably true, they are not groundless; we usually have good reasons for accepting them, but the point is that the "good reasons" do not confer certainty. John Dewey's terminology is helpful here; he argued that the concept of "truth" should be replaced by the notion of "warrants for making assertions" or "warranted assertibility" (Dewey, 1966). His point was that a warrant is an argument or a case that is offered to justify a course of action or the holding of a belief; warrants do not absolutely establish that the action or the belief is the correct one; rather, they establish that this action or belief is reasonable given the evidence or other considerations that have been put forward. But there is another point—a warrant that is reasonable at one time may be unreasonable at another time, when different evidence or other arguments are available, so that the original warrant might be withdrawn.

Fourth, from the perspective outlined above, researchers can be regarded as attempting to produce warrants to support the acceptance of a theory or hypothesis, and these warrants can contain evidence of *very many different types*: observations and questionnaires, interpretations of human actions, statistical analyses of data, results of randomized controlled experiments, and so forth, together with arguments that link these various premises together and lead to a conclusion.

Fifth, many postpositivists emphasize one sort of value neutrality with respect to research. Researchers as individuals may draw inspiration and guidance from moral, religious, political, and social values, but such values should not play an internal role in the conduct of their research. Similarly, their research should not be influenced epistemically by goals such as economic reward from their work. Truth in science is not determined by such epistemologically irrelevant values, which are external to scientific inquiry. This is the thesis of the *value neutrality* of research. (The undoubted fact that some researchers have allowed such external values to influence their work does not indicate that this *ought* to have happened.) It is important to stress, however, that postpositivists also recognize that research has *internal values* that play a crucial epistemological role—honest and accurate reporting of observations and data, avoidance of deliberately using vague or ambiguous language in describing research, not suppressing evidence that would refute a favorite hypothesis, and so on. Research cannot be value neutral *in this sense*, for these values help make the research possible (see Phillips, 2000, chap. 13).

An example that is often used to illustrate the points here concerns the Russian agricultural scientist Trofim Lysenko. Working during the Stalinist era in the USSR, he allowed his political values, and probably also his desire for fame and influence, to shape his work on plant genetics; and so he accepted on the basis of faulty evidence a Lamarckian approach to genetics that was deficient (and that was opposed to Mendelian genetics) but that was in accord with certain beliefs of the Soviet leader Joseph Stalin. As a result, Lysenko was rewarded, but Soviet agricultural policy based on his faulty science led to disastrous results, including crop failures. Scientific conclusions that are accepted on the basis of external values rather than on the basis of a sound warrant that incorporates reliable and relevant evidence are *unwarranted* and generally will lead to failure when put into practice.

Sixth, and related to the point above, many postpositivists agree that an important mechanism for preventing external values (and things such as gender and ethnic biases) from influencing the internal functioning of science is the fostering of open scrutiny and criticism within the research community (the practice of "blind" refereeing of work submitted for publication—where the referees do not know the identity of the authors—is an important part of this mechanism). This is the source of the objectivity of science; we cannot prevent—and should not try to prevent—individual scientists from drawing inspiration from the values that they hold, but communal scrutiny and open discussion will most often detect when these external values are biasing the research processes. (Open scrutiny also helps with

error elimination, which is a key mechanism leading to scientific advancement.)

Implications

The implications for educational research of the postpositivism described above can be summarized as follows: Because postpostivists do not believe in "absolute foundations" for research knowledge (recall Popper's remark that "there are all kinds of sources of our knowledge but none has any authority"), they do not accept that quantitative or experimental data are inherently better than data collected by qualitative, observational, or interpretive techniques. Thus, they accept the scientific status of *both* quantitative/experimental and qualitative/interpretive studies. In all cases, the evidence needs to have been collected carefully and objectively (in the sense described earlier). What is crucially important is not the type of evidence but the *argument or case or warrant* that is constructed to support the claim that this evidence leads to the conclusion that has been put forward.

Scientists are engaged in producing cases or arguments or warrants that support the conclusions they offer about the problems they are investigating. Charles Darwin explicitly made this point in the opening sentence of the final chapter of his great *On the Origin of Species*—"This whole volume is one long argument"—and went on to recapitulate the astounding amount, and different types, of evidence that he had incorporated into this long argument. The "Contents" pages of the book are extremely revealing, making it clear that Darwin drew into his "case" many different types of evidence, and he linked these together with compelling logic—and incidentally, his case was made more compelling by the explicit consideration he gave to objections to his theory, and to the difficulties it faced.

D. C. Phillips

See also Behaviorism; Dewey, John; Knowledge, Analysis of; Popper, Karl; Positivism; Scheffler, Israel; Value-Free Ideal for Research: Controversies

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POSTSTRUCTURALISM

See Deconstruction; Postmodernism

PRIVATIZATION

Privatization can be understood as the transfer of public, state, or community resources or entities, or their formal control, into private hands. In education, the term is used, sometimes accusingly, to describe policies and reforms that move authority away from the state or from quasi-public entities closely associated with established public education institutions, such as teachers unions or professional organizations. This entry provides an overview of common conceptions and uses of *privatization*, examining the political forces and motivations advancing and opposing the idea broadly in education. Variations of the concept in education are discussed along with the significance of the concept in the thinking and policy making around education. The concluding discussion considers alternative ways of understanding the issue.

Privatization can take many forms and may involve full or partial transfer from the public to the private sector. It takes place around the globe, in both developed and developing countries. The concept is often seen in contrast to nationalization, which transfers private property such as industries or resources into state control.

Privatization is often associated with the sale of state assets such as water or telecommunications systems to private investors in developing nations in the 1980s and 1990s. Policies promoting privatization were often required by multinational agencies, such as the International Monetary Fund or the World Bank, as part of "structural adjustment programs"

stipulated for debtor nations. These policies were imposed since state ownership was often associated with corruption, waste, and inherent ineffectiveness. Meanwhile, the dominant neoliberal logic assumed that the private sector had built-in incentives to be effective at satisfying consumer demand. However, while such sales might have produced significant windfalls for governments, transferring such enterprises away from state control often became an end in itself. Consequently, many such sales were completed for prices that were well below market value, according to critics.

Privatization as commonly understood does not entail only transfer of production to private hands but can instead involve shifts in funding or governance. A key factor is *movement* toward private control. This basic idea can take different forms, including contracting with private providers for services previously offered by state agencies; public subsidies either to private providers or to service users; shifting costs to users; or restructuring policies so that users of a public good or service are instead treated as market-style consumers under the logic that the good or the service primarily generates individual, private benefits.

Privatization in Education

These types of policies are increasingly evident in education with some of the same justifications, but often the policies assume different forms. With respect to public education, the term *privatization* typically has negative connotations, so it is more likely to be used by opponents of these policies than by advocates. Still, policy advocates with concerns about the inherent efficacy of state management of schools tend to promote a number of reforms that enhance the influence of nonstate actors or undercut the power of public authorities. In one of the first and most influential such proposals, the economist Milton Friedman outlined a system where, instead of directly funding state-run public schools, governments would grant families a voucher—a sum of money that could be used by the family to cover the cost of education at the public or private school of their choice. Although this did not represent the classic conception of transferring public entities—schools in this case—to private ownership, it was intended to enhance private control in education in terms of both the emergence of more privately run schools and the cultivation of a consumer mentality among parents of schoolchildren. Advancing from a pronounced commitment to consumer liberty, and drawing from economic assumptions about inefficiency, ineffectiveness, and unresponsiveness in the public sector, Friedman noted that schools need not be managed by the state to serve the public. Therefore, in this logic, private schools should also be funded by public revenues through vouchers. He would subsequently argue that public schools themselves should be privatized.

The consequent push to enhance private interests in public education has appeared in manifestations other than vouchers. Calls to contract out management of public schools to private—either for-profit or nonprofit—groups are reflected in the proliferating charter school movement, which privatizes management or governance to some degree. Some privatization advocates encourage the use of private service providers for noninstructional services, such as transportation or food service, or even for instructional services. Recent policies in the United States, such as No Child Left Behind, promote the use of new education service providers for afterschool instruction. In some cases, funding streams have shifted to private sources, as with the imposition of school fees on parents, or the trend toward accepting advertising in schools in exchange for fees or other resources.

In considering privatization, it is useful to distinguish this concept from corporatization and marketization. The former may have many of the appearances of privatization, and the concepts share some basic characteristics. But corporatization involves reorganizing school management along larger-scale private models characterized by hierarchical structures, such as through franchising or other means of creating chains of schools. Corporatization can be seen as one subset of privatization. Marketization involves the creation of market-like institutional conditions around schools, often through enhanced choice, competition, and operational autonomy, to compel them to behave more as private businesses. However, such conditions can be created around public schools and are not necessarily premised on the participation of private or privatized schools. Nonetheless, the creation of market-style conditions can serve as a de facto form of privatization when it incentivizes public schools to adopt organizational behaviors associated with competitive business enterprises.

As noted, using the label of "privatization" to describe various education reforms is a contentious issue. Parents and community groups have used the

term to oppose transferring control of schools to outside management agencies; proponents of market mechanisms, such as choice and competition in education, often explicitly reject the term. Yet while most education reforms do not entail the classic transfer of ownership of schools from public to private ownership, many do reflect the broader trend of shifting influence or control of resources toward private hands.

In view of the contention around traditional approaches to analyzing privatization, rather than focusing only on shifts in provision, governance, or funding, alternative approaches to this issue can also offer some insights. For instance, instead of assessing only the type of ownership arrangement, observers can also look to the orientation of an entity, examining changes in the organizational behavior of schools. Especially as schools are increasingly immersed in more market-like environments, theories from the economics of nonprofits suggest that there may be reasons to suspect that they use their greater autonomy to adopt behaviors associated with profit-seeking firms, regardless of their technical definition as public or private, nonprofit entities.

Another alternative for understanding privatization in schooling is to consider how systems elevate individual or collective objectives for education. Inasmuch as individuals and policymakers see education as a larger collective or societal good, policies will focus on broader, more democratic forms of governance and funding, for instance. However, as policy and popular discourses increasingly emphasize the ways that the benefits of education accrue to individuals, the purpose of public education is essentially privatized. Thus, policies are then often arranged to enhance the role of individuals in funding and decision making around education.

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See also Charter Schools; Globalization and World Society; Managerialism; School Choice

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Probability and Significance Testing

Education researchers often want to make inferences from what they have observed to cases and situations they have not observed. In some cases, the inference is about whether the measurements made on a sample of people give results close to what would be obtained for the entire population if it had been measured. In other cases, the inference is from the size that has been detected in the difference in outcomes for two groups in an experiment (the effect size) and from the effect size that would be obtained if the experiment were repeated many times. There are two contending approaches to probability that can be brought to bear here.

The statistical procedure of significance testing, based on a *frequentist* conception of probability, can be used to decide whether to accept or reject a hypothesis, and crucially, it gives an indication of how often that decision is likely to be wrong. On the other hand, the *Bayesian* conception of probability shifts researchers from making a decision about whether to accept or reject a specific hypothesis to using results of studies to adjust their estimates of the probability of competing hypotheses, such as whether or not some experimental treatment will be effective. (Examples of these procedures are given in the next sections of the entry.) This entry sketches the relevant assumptions of both conceptions of probability and the logic behind significance testing. Then, it describes persisting controversies about the

reliance on significance testing as the primary basis for drawing conclusions.

Two Conceptions of Probability

As sketched above, different conceptions of probability undergird different approaches to statistical inference. In the frequentist conception, probabilities refer to the proportion of times—in the long run—that a particular outcome is obtained for some event. For example, saying that the probability of rolling a "1" on a (fair) six-sided die is 1/6 means that, in the long run, "1" will come up 1/6 of the time.

A competing conception of probability equates it with the (prior, "subjective") beliefs that someone has about the likelihood of each possible outcome of an event (e.g., that a treatment used in an experiment will, or will not, be effective). Or, to revert to the previous example, I might distrust a die being used in a game and believe that the probability of rolling a "1" with a particular die is 1/10. This conception of probability is credited to an 18th-century essay by Thomas Bayes, hence, it is referred to as the Bayesian conception.

The relevance of the difference between these two conceptions can be seen in the role that is played by new evidence. Because the frequentist conception defines probability as the long-run relative frequency (the long run being infinitely long), the investigator—who makes observations only in the short run—will never be able to observe the actual probability. Instead, the frequentist develops procedures for drawing inferences about what the short run would look like under some assumption about the long run probability and then makes an informed guess, recognizing that the guess may be wrong. Under the Bayesian conception, in contrast, the investigator uses new evidence to adjust the prior beliefs that were held about the probability of each of the possible outcomes.

Consider once again the example of rolling a die. The frequentist, on the one hand, might start by considering the following hypothesis: "The die is a fair one and therefore the probability of rolling a '1' is 1/6," and use this hypothesis to establish a rule for using new evidence to decide whether in fact to accept it. One possible rule would be to reject the hypothesis that the die is fair if the proportion of "1" in a new study involving a short run of die rolling was so far from 1/6 that it would occur infrequently, say less than 5% of the time. (Of course, there is still some probability, but a small one, that rolling a fair die a considerable number of times will turn up a 1 only 5% of the time; a 1 should turn up 1/6 of the time in the long run! So the rule that is adopted is a guide to making a decision. The decision could be wrong, but is unlikely to be wrong if the percentage figure is set very low.)

Bayesians, on the other hand, would use evidence gained from trials of rolling the die to adjust their prior belief about the probability of getting a "1" with this die. So, for example, if in a series of rolls of the die a 1 turned up 1/10 of the time, this information would be used to adjust their expected probability from the 1/6 that they originally held.

Significance Testing

The approach taken by the frequentist is an example of significance testing, which owes much to the work of Ronald A. Fisher, a major figure in the work on design of experiments. The logic of significance testing contains an interesting quirk: Instead of directly trying to establish that, for example, a treatment given to an experimental group but not a control group is effective, and this has produced a difference in scores between the two groups, the Fisherian approach is to adopt the *null hypothesis* that there is no real or significant difference between the two groups (the only differences between the two—and there always will be some difference—is due to chance). To establish that the treatment was effective, the null hypothesis has to be rejected—that is, it has to be the case that there is some difference between the scores of the experimental/treatment group and the control group, a difference that cannot reasonably (in all probability) be attributed to chance. In short, instead of directly establishing that the treatment was effective, the approach is to show that the claim that it was not effective (the null hypothesis) was probably false.

Thus, the Fisherian approach is to compute the probability (relative frequency) of outcomes that would occur if the null hypothesis were true. Given that assumption, a p value is computed for the test results that were obtained in a study—the probability of getting a result at least this different from what would be expected by chance. The common decision rule is to reject the null hypothesis as being false when the probability value (p value) is less than .05 (for then, the result obtained has only a low probability of being due to chance); this will lead

the investigator to make a mistake and falsely reject the null hypothesis 5% of the time. If the decision is to reject the null hypothesis and thus to accept that the treatment in the experiment was the cause of the difference in results between the experimental and the control groups, the result is called "statistically significant."

The frequency of falsely accepting the null hypothesis when it is true depends on several other factors, including the power of the statistical test and what alternative hypotheses are considered. The discussion below focuses on the case of estimating a treatment effect, with the null hypothesis that that treatment effect is zero. But the general analysis applies to other tests of a null hypothesis.

Criticisms of Significance Testing

Statistical significance testing has been criticized for decades, for a variety of reasons. Chief among these is that many investigators do not understand the role of probability in significance testing. The correct interpretation of a *p* value is that it is the probability of getting *a difference as large as the one obtained* if the null hypothesis is true. Investigators misstate the meaning of the *p* value, saying that it is the probability that the null hypothesis is true. The *p* value is a guide to the investigator in making a decision about whether to consider that the null hypothesis is true or not.

Another issue is that the practice of using significance testing as a primary basis for deciding what to report in academic journals has also been repeatedly criticized. If, as many scholars believe, journal editors will publish only studies where statistically significant results have been found (i.e., if they do not publish studies where no significant difference was found between experimental and control groups), then this publication practice will bias the literature. For example, if 100 studies were done on a treatment that really has no effect, by chance, about 5% of these studies could (erroneously) report a statistically significant result; if these are the only studies out of the 100 that get published, the literature will be biased in favor of this incorrect "finding." Critics also have noted here that publications do not always acknowledge the effect that sample size has on the likelihood of getting a statistically significant result. With large samples, a small *p* value will be frequently obtained, even if the actual effect is only slightly different from the null hypothesis.

Alternatives to Significance Testing

There are some alternative strategies that can be adopted, which require a more technical exposition that will be kept as brief as possible. An alternative that critics of significance testing propose is to publish estimates of effect sizes with information about the variability of the samples. By publishing estimates of effect sizes, researchers get away from the stance of treating the null hypothesis as the main thing of interest. Information about variability can be conveyed either in a frequentist conception as a confidence interval, or in a Bayesian conception as description of beliefs about the probability distribution for the effect size, based both on an initial probability distribution and on the new data. The frequentist confidence interval conveys information about variability, but it may be misinterpreted in ways parallel to misinterpretations of significance testing.

In a Bayesian analysis, the result will be a display that shows the probability distribution for a range of estimated effect sizes, indicating both which value is most likely and how likely it is that the actual effect is in any range of values.

Conclusion

Despite the repeated criticisms of significance testing, the practice remains common in scholarly journals, though now usually supplemented by reports of variability and sample size. Bayesian approaches to statistics are increasingly popular. Confused interpretations of both probability and significance testing continue to be common. The best advice for researchers is to treat the results of any single study with caution. In both interpretations of probability, the investigator is always left with uncertainty.

Robert E. Floden

See also Experimental and Quasi-Experimental Designs for Research: Campbell and Stanley; Qualitative Versus Quantitative Methods and Beyond

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Problem-Based Learning

Problem-based learning (PBL) is an instructional method that aims at cultivating students to be independent problem solvers, self-directed lifelong learners, and team players. In its conceptualization, PBL draws on contemporary human learning theories and educational philosophy, including the information processing model, cognitive theories, the schema theory, situated cognition, metacognition, and constructivist instructional theories. Research has shown that PBL is an effective instructional pedagogy that engages students in active, meaningful learning and results in deeper understanding and longer retention. This entry discusses the components and process of PBL, models of PBL and variations on it, and limitations to PBL.

PBL was conceived in the medical education field in the 1950s. During the 1970s, McMaster University in Canada first systematically implemented its PBL medical curriculum. Since then, PBL has become a prominent instructional method in medical and health science education throughout North America, Europe, Australia, Asia, South America, and Africa. PBL has also been widely adopted by various disciplines in higher education, such as business administration, engineering, leadership education, as well as K–12 education settings, for example, mathematics, science, and microeconomics. To date, its popularity continues to rise.

Components and Process of PBL

Several components operationalize PBL's educational philosophy and instructional aims.

Components

Problem-Driven Learning. In PBL, learning starts with a need to solve problems, instead of receiving instruction about content knowledge from the instructor. The need for solving specifically chosen or designed problems drives students' learning in acquiring and applying intended content knowledge and skills along the way. Thus, PBL simulates the process of solving problems, a process in which learning is embedded. Human curiosity and the tendency to take on challenges are the two main motivations driving students to learn in PBL.

Problem/Case-Structured Curriculum. In PBL, the content knowledge and skills to be learned are organized around problems, rather than in the form of a hierarchical list of topics. This organization of curriculum helps students construct the content knowledge in a problem/case–based structure in their memory so that the knowledge learned is integrated as a usable schema. Furthermore, the problem/case–structured curriculum also helps students develop their conditional knowledge, which is essential for applying and transferring content knowledge in real-life situations.

Authentic, Ill-Structured Real-Life Problems. The problems used in PBL are authentic, ill-structured problems, as opposed to well-structured problems seen in textbooks. Real-life, ill-structured problems are the ones that contain vague goal states, several unknown problem elements, multiple solutions, and ambiguity about the concepts or principles needed to solve them. In PBL, the use of ill-structured problems helps students develop their ability to adaptively apply their knowledge to deal with complicated real-world problem situations.

Self-Directed Learning. Student learning in PBL is student led and self-directed rather than dictated by the instructor. PBL requires students to initiate and be responsible for directing their own learning.

This is to cultivate students' lifelong learning skills and mind-set. Yet the self-directed learning is not a free form of learning but is facilitated by the instructor. The role of the instructor in PBL is to guide students to engage in a scientific reasoning and problem-solving process rather than to disseminate content knowledge.

Small Group Settings. PBL students collaborate and work in small groups to solve the problems assigned to them. This collaboration component helps students develop social, interpersonal, collaborative, and intersupportive skills that are much needed in today's workplaces. Also, the small group working environment provides students opportunities to hone their interpersonal and teamwork skills.

Reflective Learning. Reflection is an important component in PBL. Improving on one's own learning is a key to lifelong learning. Either by self-monitoring or with instructor's facilitation, students engage in metacognitive activities in which they examine their understanding and learn to revise their strategies for effective learning and problem solving.

The Process of PBL

Students go through seven steps in PBL:

1. Students in groups of five to eight receive a problem.
2. Students define and reason through the problem.
3. Students set learning objectives by identifying what they need to learn in order to solve the problem and generate hypotheses about the cause of the problem.
4. During self-directed study, individual students complete their learning assignments, which may include collecting related information, studying resources, and preparing reports to the group.
5. Students share their research results with the group, revisit the problem, and generate additional hypotheses and reject others based on their learning.
6. Students generate or select the most viable solution to the problem.
7. At the end of the learning period, students integrate and reflect on their learning.

Models and Variations

As PBL migrates to various disciplines and levels of education, a great number of variations have been developed to meet their unique instructional needs and contexts. However, the use of the term *PBL* has caused confusion and debates about what exactly PBL is. Though this is still a question open to discussion, when defined broadly, PBL can be considered as an overarching term for a variety of problem-driven instructional approaches. Six representative PBL models are described as follows:

Pure PBL: Pure PBL is the original form of PBL. There are no lectures or similar forms of knowledge dissemination in the instruction. Students who study under pure PBL assume the highest degree of responsibility for directing their problem-solving and learning process. The problems used in pure PBL are highly complex, ill-structured, and as authentic as possible.

Hybrid PBL: This form of PBL employs a combination of pure PBL with a limited amount of lectures as supplemental instruction. High degrees of self-directed learning and solving authentic ill-structured problems are still the dominant learning format. However, students receive a limited number of lectures or minilectures to ensure sufficient coverage and accuracy of their knowledge acquisition.

Anchored instruction: Originally developed by the Cognition and Technology Group at Vanderbilt, this uses video-based scenarios to anchor students' learning in real-life situations. Anchored instruction requires students to solve problems by using their prior knowledge, and the content knowledge is provided by the teacher when needed.

Project-based learning: In project-based learning, students are assigned to complete a project in which they have to devise a solution to a real-life problem with the content they have studied. However, the problem-solving process in project-based learning functions chiefly for knowledge application rather than knowledge acquisition.

Case-based learning: Case-based learning is problem-driven and contextualized instruction for students to establish the connections between theories and applications. By studying and analyzing real-life problems/cases, the students realize how the abstract concepts are used or manifest themselves in real-world situations.

Lecture-based learning with problem-solving activities: This category of PBL is at the lowest degree on self-directedness and structuredness of problems used. The problem-solving activities are aimed at providing a link to the theoretical concepts.

Limitations

PBL has been confirmed as an effective instructional method, however, it is not without shortfalls. First, designing effective PBL problems is difficult and time-consuming. When this issue combines with self-directed learning, ineffective PBL problems could lead students to work with irrelevant information that will reduce the effectiveness of learning. Also, PBL may require substantially more resources to implement at a departmental level, or at a larger scale, due to the number of facilitators needed and the training for improving instructors' facilitation skills. Last, when working in groups, personality conflicts or uneven contributions from the group members pose problems for the effectiveness of group processing, which could affect the students' learning outcomes.

Woei Hung

See also Communities of Learners; Experiential Learning; Learning, Theories of; Metacognition; Project Method; Radical Constructivism: Ernst von Glasersfeld; Service-Learning; Social Constructionism; Teaching, Concept and Models of

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Productive Labor and Occupations: From Dewey to Makarenko

Education through occupations is a system of teaching children using tasks that are analogous or similar to productive tasks in the workplace or the home. It can be distinguished from vocational education by the fact that its aims extend beyond the attainment of vocational skill to encompass civic education. Education through occupations is most closely connected to the work of the American educator and philosopher John Dewey (1859–1952), who made it the centerpiece of his educational program and gave the term a particular significance, but in its more general sense, the term can also encompass the work of other scholars, including the Soviet educational theorist Anton Makarenko (1888–1939). In what follows, the scope and aims of Deweyan education through occupations are outlined and contrasted with some of the dominant trends in early 20th-century vocational education. The key tenets of Anton Makarenko's approach to schooling are also outlined briefly.

Deweyan Education Through Occupations

In the late 1890s, when he began to develop his interest in education through occupations, Dewey had recently been hired as professor of philosophy at the University of Chicago, a "star faculty" position. He had already achieved significant success as an academic philosopher and psychologist, and he was also becoming known as an education scholar, having founded, in 1896, the Laboratory School of the University of Chicago—later known popularly as the "Dewey School" (it was developed from a well-known progressive school that Dewey had taken over). At this point, Dewey was not yet the nationally known public intellectual that he would become a few decades later, but his substantial successes at the Dewey School, at which education through occupations formed the backbone of the curriculum, would contribute substantially to his later fame.

Before outlining the details of Dewey's program for education through occupations, it is worth discussing some of the influences that may have led him to develop this program. One significant factor was that manual training, a movement that aimed to teach students through the making of handcrafts

and the use of machines, was growing in popularity. Most of the strands of this movement were dedicated entirely to vocational training of future machine operators and engineers, but these trade-focused aspects of the movement did not interest Dewey at all, as they were opposed to the kind of broad, liberal civic education that he wanted to offer students. There was, however, an aspect of manual training that was significantly broader in its educational aims: Scandinavian *sloyd* (craft) teaching. Sloyd (Swedish, *Slöjd;* handicraft), which originally developed as an effort to prevent the loss of traditional craft skills, emphasized activities like woodworking and needlepoint within elementary school classrooms. The key goals of the sloyd movement were the inculcation of habits of industry and the development of artistic appreciation, both of which later became significant goals of Deweyan education through occupations.

The sloyd system had also caught the eye of the psychologist and philosopher William James, who spoke of it approvingly in *Talks to Teachers* (1899). James noted that manual training constituted an unprecedented improvement in education and that the sloyd system was the best of the manual training schemes then in existence. He further indicated that manual training was psychologically beneficial because of its requirement that students become active learners. As such, it was a useful antidote to more traditional approaches to education that simply required students to learn by rote. In addition to requiring action, James also felt that manual training was built on some of the fundamental instincts that children possessed, including their instincts to build, to possess, and to imitate.

James's strong endorsement of manual training may well have affected Dewey significantly. However, the fact remains that Dewey's program for education through occupations deviated substantially from both conventional technical skill–oriented approaches to manual training as well as sloyd teaching. Dewey was not interested in using occupations as a pedagogical device to inculcate technical skill, nor was he primarily interested in the habits inculcated by sloyd teaching; he was, instead, much more concerned about creating citizens who had a good understanding of the society in which they lived. Dewey felt that the citizenry of the 18th- and early 19th-century rural America had possessed a solid understanding of the occupations and technological processes that underpinned their society but that this type of understanding had been largely swept away by technological progress. A seminal passage of *School and Society* (1899/1990) outlines the contrast that Dewey felt existed between the current and the previous understandings of technological processes:

> Instead of pressing a button and flooding the house with electric light, the whole process of getting illumination was followed in its toilsome length from the killing of the animal and the trying of fat to the making of wicks and dipping of candles. The supply of flour, of lumber, of foods, of building materials, of household furniture, even of metal ware, of nails, hinges, hammers, etc., was produced in the immediate neighborhood, in shops which were constantly open to inspection and often centers of neighborhood congregation. The entire industrial process stood revealed, from the production on the farm of the raw materials til the finished article was actually put to use. (p. 12)

Naturally, Dewey was not interested in simply recapturing an understanding of pastoral life in America for its own sake. The goal, rather, was to allow the future citizens to explore how their society worked *presently*, which explains Dewey's (1899/1990) definition of an educational occupation as "a mode of activity on the part of the child which reproduces, or runs parallel to, some form of work carried on in social life" (p. 132). In an early pamphlet that had been written by one of Dewey's collaborators, Franklin Ford had spoken of studying society as though it were a steam engine, and this was a key goal of education through occupations. In sum, Dewey's effort to get children to understand industrial technology could be described as an effort to create "technological transparency"—a state in which a person understands the sociotechnical systems that lie behind everyday life.

An example of an occupation that was actually used at the Dewey school to work toward technological transparency was the making of cloth, which Dewey considered a paradigm case of industrial production. The students would begin their work by familiarizing themselves with the raw material; the teachers helped them experiment with unprocessed cotton plants and wool. Teachers would then slowly guide the children through the process of reinventing and rediscovering the steps necessary to turn the raw materials into cloth (e.g., wool carding, cotton ginning, spinning, and working the loom). As indicated

above, the aim of this activity was not cloth-making skill but rather developing insight into the nature of industrial production. Importantly, this insight was not supposed to be merely technical but also social. Two former teachers at the Laboratory School, Katherine Mayhew and Anna Camp Edwards, highlight this point in *The Dewey School* (1936). They note that children not only traced the technological innovations involved in industrial development but also the social consequences of this development, with careful attention being paid to the people who had been marginalized or exploited by these systems of production. Clearly, education through occupations, much like the rest of Dewey's social and educational program, had a substantial leftward tilt.

In addition to aiming toward technological transparency, Deweyan education through occupations had a number of other subsidiary goals. Like the sloyd system, Dewey's program aimed to foster habits of discipline and cooperation among children, as well as aesthetic appreciation of the objects which they built and with which they worked. More important, however, it served to foster a spirit of experimentation and inquiry—children were constantly called on to think through and act on the concrete problems (and some teacher-contrived problems) that their simulated occupations presented. These skills in scientific inquiry were viewed as invaluable by Dewey; to think through social problems, the citizen of the future needed to be an effective scientific inquirer.

In sum, Deweyan education through occupations aimed to produce competent, cooperative citizens who understood how their society worked. This understanding would enable the child to become a person who was able to exercise a great deal of "positive freedom," or, in other words, who was capable of thinking and acting effectively and cooperatively.

The Dominant Approach: Education *for* Occupations

Although many aspects of Dewey's educational philosophy, particularly his pronouncements on child-centered education, were very popular, his program for education through occupations received little acceptance outside the confines of the Laboratory School itself. Although there was significant interest in using manual training as a form of general education, Dewey's program suffered from serious practical difficulties. It was labor intensive for teachers and difficult to enact at the level of secondary schooling. However, an even more salient factor in Deweyan education's limited success was the emergence of a vocational education program that placed an overwhelming emphasis on job training. By the 1920s, much to Dewey's dismay, advocates of narrow job-focused vocationalism had squeezed out the more general, Deweyan approach—in America, at least, education *through* occupations was replaced by education *for* occupations. Given the obviousness of what education *for* occupations entails, there is no point in discussing its goals at length, but it is worth outlining a few of the principal reasons why this form of education became so popular in early 20th-century America.

One major reason was strong support from American business leaders. The National Association of Manufacturers was inspired by the success of the German education system, which was rigidly separated into academic and vocational tracks. American industrialists hoped that technical training would yield a growth in worker skills that would help meet increased industrial competition from Germany and England.

The emergence and popularization of the concept of efficiency also played a role. Adapting Frederick Taylor's concept of efficiency, Leonard Ayres, a muckraking journalist, wrote *Laggards in Our Schools* (1909), in which he made the argument that the high number of dropouts in the schools constituted a waste of human resources. One of the obvious solutions to the problem pointed out by Ayres was to remove the academically oriented general education programs that were, apparently, creating the "laggards" and to replace them with vocational training programs that would instill useful skills and reduce the system's supposed inefficiency. The nascent educational testing movement was also able to play a substantial role here, as fitness for vocational education could be determined through these tests, producing an efficient allocation of people into social roles.

Conservative social thinking also had a significant impact on the rise of vocational education. The racialist sociologist Charles Ross, who believed that school needed to become a more effective means of controlling potentially chaotic elements of the population, was a formative influence on some of the leading lights of the vocational training movement, including David Snedden and Charles Prosser. The concern for order is evident in Prosser's text *Vocational Education in a Democracy* (Prosser & Allen, 1949), in which he offers the following formula: "Reduced

idleness → Increased social assets → Improved living conditions → Greater stability" (p. 100).

Given these sorts of pronouncements on the part of theorists, as well as the vocational system's general tendency of ensuring that working-class children got working-class jobs, it is not surprising that working-class people often resisted the vocationalization of the public school system. The movement's widespread support among business and educational elites, however, ensured that it would be difficult to turn back the tide, and variations on this approach prevailed in American public education throughout the first half of the 20th century.

Anton Makarenko's Tough Love

The educational program of Anton Makarenko represents a complete departure from both the work of Dewey and from that of American vocational educators like Snedden and Prosser. Although Makarenko's program was, indeed, one of education *through* occupations, he differed substantially from Dewey in that although Deweyan education used small occupational tasks to work toward a relatively flexible set of skills and dispositions that would be useful for democratic citizenship, Mararenko's system was strictly intended to serve the ends of the Soviet state. Nonetheless, especially given the population with which he worked—orphaned and delinquent children—Makarenko's educational accomplishments are worthy of consideration.

In 1920, Makarenko began his career as an educational innovator, rather inauspiciously, after his own complaints to the local department of education resulted in the department head's challenging him to take up the directorship of a new reform school for dispossessed and orphaned children. Makarenko had no experience dealing with this type of population, and an incident from the early days of the school is revealing in this regard. When an older student insolently refused Makarenko's request to cut firewood, Makarenko lost his temper and punched him in the face. The student, despite being physically much stronger than Makarenko, reacted with shock and begged Makarenko's forgiveness. This incident had a great impact on the boys of the school, and Makarenko theorized that his violent outburst allowed them to recognize him as a fellow human being who, like them, had human failings. From this moment on, the boys began to follow Makarenko, and the struggling school began to thrive.

When he began the school, Makarenko did not have a fully formed educational theory that he was attempting to apply, but he was strongly loyal to Soviet political ideals. As a result, life in Makarenko's school emphasized group loyalty, equality, and cooperation above all. Makarenko's major preoccupation was to form the students into a cohesive and effective group, and virtually all of the tasks they were set were aimed at this goal. Life at the school did not emphasize formal learning; Makarenko's descriptions of the children's activities are long on collective labors that the boys undertook outdoors and scant in terms of accounts of formal instruction. In addition to their daily labors, the boys built their *esprit de corps* by executing quasi-military interventions in the area surrounding the school, shutting down illegal alcohol stills in peasant huts and reoccupying land illegally appropriated by crypto-bourgeois farmers.

As Makarenko's school grew, this quasi-military aspect, which Makarenko used to build group loyalty, increased in prominence. The students would engage regularly in military-style maneuvers on the improvised parade ground, and Makarenko eventually introduced a system of detachments and commanders that was used for the maintenance of order and discipline during work tasks. The outcome of work tasks was also described in military terms, with different cadres "battling" to make production quotas in the school's workshops. Makarenko was certainly not an advocate of personal freedom or dissent and continually emphasized the importance of students' loyalty to the school's collective enterprise and to Soviet ideals.

Despite the militarism of Makarenko's pedagogical work, there were a number of innovative elements. Although he exercised authority with a heavy hand, he was close to the students and emphasized his equality with them. In one illustrative anecdote, Makarenko (1933/2002) excoriated a student who brought him a modest gift of some fried fish:

> Whose frying pans do you use? Your own? No—everyone's! And the sunflower oil you wheedle out of the cook—whose is that, d'you think? Everyone's, of course! And the wood, the stove, the pails? Well—what have you to say to that? But it's your uncomradely spirit that's worst of all. (p. 26)

Makarenko also insisted on being completely ignorant of his students' (usually criminal) pasts. Although his students were deeply marginalized members of a society that had been mired in chaos

for years, Makarenko had faith that they would be cured by the healthiness of the life within the collective that he had set up. He was also tremendously forgiving of his students' numerous bad acts. The students were often causing trouble with the neighboring peasants, which forced Makarenko to intercede, and in more than one case, Makarenko readmitted students who had left the school to pursue lives of crime.

Although Makarenko could be said to share some common ground with Dewey and other contemporary theorists in that he took an experimental approach to work-based education, his hostility to conventional educational theory constitutes a major point of contrast. Throughout *Road to Life*, Makarenko gleefully recounts anecdotes in which well-intentioned but naive education officials or trainees attempt to offer some suggestions about how the school might be run. In every case, Makarenko dismissed any theoretical insights that these visitors might have had and offered condescending accounts of how the visitors were eventually charmed out of their theoretical commitments by the success of his method and the school's tough but engaging students.

Makarenko's oppositional stance made him some early enemies in local departments of education, but he eventually profited enormously from his position once Stalin had fully consolidated power. Makarenko's policy of subordination to the collective and his overall militaristic orientation fit perfectly with the emerging Stalinist values, and his humorous but honest account of the founding of his schools, *The Road to Life* (1933/2002), won the hearts of Soviet readers. This success was understandable; given the difficult population that he was working with, Makarenko's achievements were stunning. Despite his unorthodox and, at times, unethical and authoritarian teaching strategies, his faith in the transformative power of a strong collective generated meaningful educational results for a very challenging group of children.

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See also Dewey, John; Experiential Learning; James, William; Marx, Karl; Progressive Education and Its Critics; Vocational Education

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Progressive Education and Its Critics

Progressive education is a broad theoretical and practical approach to education that has a long intellectual history. Focusing originally on the nature of the child and human experience, it developed into an approach to elementary and secondary schooling (K–12) that now extends to undergraduate programs. Never clearly defined or completely unified, in the United States the progressive movement came to prominence during the 19th century. It dominated the early part of the 20th century but receded in the late 1950s. While the movement never reestablished its earlier preeminence, it continues to this day. Some philosophers of education even view it as the current educational status quo, at least rhetorically and ideologically if not practically. Its legacy is seen in the deschooling, children's rights, and philosophy for/with children movements, but it also influenced constructivism, the project method, cooperative learning, and emergent and negotiated curriculum.

This entry discusses the historical roots of progressive education, the development of progressive education in the United States, the critics of progressive education in the United States, and the shift away from progressive education.

Historical Roots

As the earliest precursor to progressivism, Aristotle (384–322 BCE) distinguished education from training. Whereas the former results in virtuous character, the latter results in intellectual excellence. More specifically, he argued that individuals develop virtuous character by practicing virtuous activities. To have virtuous character is to be practically wise; it is to consistently judge the right thing to do, at the right time, and in the right way. Practical wisdom achieves a mean between diametrically opposed extremes. According to Aristotle, practical wisdom has a social dimension; it is informed by the recognition of human interdependence. Virtuous individuals enter into perfect friendships—motivated by more than pleasure or utility—that serve as the basis for moral and political community.

The seeds of progressivism were sown in the Renaissance. This is particularly evident in the thought of Michel de Montaigne (1533–1592), Francesco Petrarch (1304–1374), and Giovanni Pico della Mirandola (1463–1494). Montaigne conceived of education as the art of living. He stressed that an individual should become well-formed rather than well-filled and, thereby, develop qualities of resilience, flexibility, and sound judgment. Montaigne introduced the defining progressive pedagogical idea that children should be instructed indirectly by means of their interactions with social, cultural, and physical environments. The onus is on the child's tutor to (a) place the child in an engaging environment, (b) closely observe what the child is learning, and (c) determine how to alter the environment based on what should be learned next.

The developments of the 17th and 18th centuries represented by Johann Amos Comenius (1592–1670), John Locke (1632–1704), and, most prominently, Jean-Jacques Rousseau (1712–1778) were also important. Rousseau was a reader of Montaigne and Locke. Locke viewed the mind as a blank slate and held that all knowledge resulted from experience. To some degree, Rousseau explores the educational implications of Locke's epistemic thesis in *Emile, or on Education* (1762/1979). *Emile* is an idealized account of the education of Emile and his future wife Sophie; Rousseau (1762/1979) describes it as "a visionary's dream about education" (p. 34). Emile's education is overseen by Rousseau the tutor. Emile is raised to become a "natural man" before becoming a "civic man" (p. 39). He is taught to recognize his absolute existence and then to acknowledge his relative value (i.e., his value in relation to others); he exists for himself first and then for others. It is because Emile's education proceeds from nature to society that Rousseau thinks that it develops qualities of integrity, decisiveness, and consistency. In contrast, the education of society "is fit only for making double men, always appearing to relate everything to others and never relating anything except to themselves alone" (p. 41). If civil man "lives and dies in slavery," then Emile, having been educated according to the natural order, possesses autonomy and equality (p. 42).

With *Emile*, Rousseau demonstrates that individuals should be educated for lives that include the vicissitudes of fate; the necessity of labor; the desirability of marriage, family, and friendship; and, in the case of men, the responsibilities of citizenship. In *Emile*, he argues that the only way to "prepare" for such lives is to engage in present experiences wholeheartedly. Rousseau cautions traditional educators that their intense preoccupation with preparing the child for mature adulthood leads them to neglect the intervening and formative years. He reminds his readers that the dispositions of humane adulthood—compassion and conscience—develop only if the individual fully experiences infancy, childhood, and adolescence. Rousseau the tutor gives sustained and serious attention to what Emile—the infant, child, and adolescent—perceives, comprehends, needs, and desires. Like Montaigne, Rousseau anticipates Dewey's thesis that the first step in shaping children is to observe them in their most natural state. Unlike Rousseau, Dewey recommends that educators exercise judgment in determining which adult influences children should be exposed to.

Rousseau theorized that an individual's motivational structure altered according to the developmental stages of infancy (birth to 3 years), childhood (3–12 years), prepubescence (12–15 years), and adolescence (15–20 years). Infancy and childhood are characterized by dependency, prepubescence is characterized by curiosity, and adolescence by desire, love, and friendship. Infants and children are motivated by necessity: They seek to maximize pleasure and minimize pain, and for this reason, they are educated by nature. Prepubescents are motivated

by utility: They are curious about the things that they perceive to be in their interest. Adolescents are motivated by a desire to do what is morally good, requiring them to learn from the whole of humanity. Although each developmental stage has its own perfection, throughout education, the aim is to cultivate autonomy tempered by compassion.

Rousseau's *Emile* was widely translated and vastly influential. Its reception was both positive and negative; in France, it was publicly burned. One educator influenced by Rousseau's *Emile* was Johann Heinrich Pestalozzi (1746–1827). Unlike Rousseau, Pestalozzi was a father and the founder of several schools. He believed that social institutions need not oppose humankind; rather, they could be used to support the full expression of our humanity. Pestalozzi reconstructed the school so as to educate the whole child. Like Rousseau, he wrote an educational novel, *Leonard and Gertrude*. The heroine, Gertrude, is a wife and mother immune from the corrupting influences of gambling, drinking, theft, vanity, and greed. Her virtuous intelligence makes her a force for good in the lives of her husband, children, friends, and village. The village school comes to be modeled on the interactions and activities within her home. Pestalozzi's novel corrects Rousseau's gender bias and develops some of his insights. In particular, it endorses caring relationality as an alternative model for the artful, or well-lived, life.

Friedrich Froebel (1782–1852), the progressive educational theorist, visited Pestalozzi's schools. Froebel went on to develop his own progressive philosophy and practice, which culminated in his theoretical work *The Education of Man* (1826). He conceived and created the first kindergarten, stressing the importance of play in educating young children (now a prominent feature of progressive classrooms).

John Dewey (1859–1952) is perhaps the most influential philosopher of progressive education, despite the fact that there was considerable misunderstanding of his ideas (which he attempted to rectify in his volume *Experience and Education*). Dewey was influenced by Aristotle, Montaigne, Rousseau, Pestalozzi, and Froebel, and by his contemporaries, in particular, Francis Parker (1837–1902), William James (1842–1910), George Herbert Mead (1863–1931), and Jane Addams (1860–1935). James's evolutionary psychology was particularly influential on Dewey's constructivist theory of learning. Persuaded by evolutionary theory, James argued that humans are ultimately practical: They always seek to adapt to their physical and social world. Dewey sought to create the conditions for the study of children's impulses and adaptations in the Laboratory School that he developed at the University of Chicago. Like Pestalozzi, he modeled the school on the ideal home, "where the parent is intelligent enough to recognize what is best for the child, and is able to supply what is needed" (Dewey, *Middle Works*, 1899–1924, hereafter MW, Vol. 1, p. 23). Students participated in gardening, cooking, interior decorating, and information sharing—occupations fundamental to the general interest of the school. Dewey was assisted in this endeavor by his wife Alice Dewey (1859–1927) and Ella Flagg Young (1845–1918), a teacher who went on to become superintendent of schools in Chicago from 1909 to 1915. Dewey's greatest contribution to progressive education is his formulation of its underlying philosophy.

Dewey articulated the aim of progressive education as more education or, alternatively, as growth. He defined growth as a meaningful and purposeful engagement with experience. He characterized meaningful and purposeful engagement by an intelligent exploration and adaptation of the potentialities inherent in experience that contribute to the realization of more meaningful and more purposeful experiences, that is, occasions for further growth. Put simply, growth begets more growth. Experiences conducive to growth invite the mutual adaptation of an individual's capacities and interests and his or her environmental conditions. Having little control over students' capacities and interests, teachers must determine and regulate environmental conditions, including the use of space, selection of materials, and daily and weekly routines. These decisions should be based on teachers' observations of students, and what they predict will provoke the greatest degree of mutual adaptation. Students are encouraged to become actively and reflectively involved in their own learning. Their learning encompasses intellectual, emotional, practical, moral, linguistic, and social development. The approach is characteristically summarized by Dewey: "Learning?—certainly, but living primarily, and learning through and in relation to this living" (MW, Vol. 1, p. 24).

Dewey formulated an ideal of democracy that supported progressive aspirations. He defined democracy as "a mode of associated living, a conjoint communicated experience" and argued that democratic social arrangements are superior because they promote a better, more inclusive and diverse, quality of experience (MW, Vol. 9, p. 93). Dewey

had a number of interpreters, the most famous of whom is William Heard Kilpatrick (1871–1965), who applied Dewey's philosophy in the project method he developed.

The Progressive Movement in the United States

The history and character of progressive education varies in different countries. In the United States—the focus of this section—it arose at a time of unprecedented immigration, industrialization, scientific advancement, and technological innovation. This period of change and opportunity inspired the conviction that future citizens would need to adapt, learn from, and create new experiences and that the role of education was to furnish them with the necessary inquiry skills, dispositions, and sound judgment. A widespread commitment to compulsory public education emerged that reflected a growing national interest in educating *all* individuals for democratic citizenship—something traditional schools were conspicuously failing to achieve. Traditional school classes were large (upward of 60 students), formal, and regimented; the teaching of manual, industrial, and agricultural skills was conspicuously absent; teachers were untrained; and classroom pedagogy was not based on developments in educational science and psychology. During the 19th century, the term *progressive* came to distinguish new educational approaches from traditional ones. The new approaches were wide-ranging and experimental, and they were intended to support a socially progressive society.

Key to these new approaches was the recognition that children are natural and self-directed learners. Innately curious, children are motivated to explore their environment by observation, play, conversation, drawing, singing, and imitation. Dewey wrote, "The child is already intensely active, and the question of education is the question of taking hold of his activities, of giving them direction" (MW, Vol. 1, p. 25). Children's learning must be acknowledged, directed, and improved. According to Dewey, the way to this is by "centering upon the conditions which exact, promote and test thinking. Thinking *is* the method of intelligent learning" (MW, Vol. 9, p. 159). Experience initiates thought because it involves the doing of things, and the doing of things demands thinking; activity necessitates the resolution of new problems by drawing on sufficiently familiar knowledge.

Thoughts, unlike facts, are not transferrable. Thinking requires that the individual seeks a way forward by wrestling with the difficulties of a situation. Thus, "*all* thinking is original" (MW, Vol. 9, p. 166). The child is a discoverer, even if everyone knows what he or she is discovering for the first time. If all thinking is original, then each child is a distinctive being with a unique experiential history and trajectory. Thinking may be original, but it does not happen in isolation. It is initiated by experiences involving a vast array of communicative interactions. Dewey combines the originality of thought with the social instinct of children to conclude that

> when the parent or teacher has provided the conditions which stimulate thinking and has taken a sympathetic attitude toward the activities of the learner by entering into a common or conjoint experience, all has been done which a second party can do to instigate learning. (MW, Vol. 9, p. 167)

In modern classrooms, progressive educators have the difficult task of securing conditions that stimulate the coordinated growth of a community of unique individuals.

In contrast, traditional education posits reality as atemporal and unchanging, and relatedly, it posits knowledge as objective truths that, having already been discovered, must be transmitted from one generation to the next. The traditional classroom, with its bare walls, rows of desks, and lack of movement, is designed "for listening"; students attend to the teacher and curriculum to be "filled" with inert, predetermined truths (MW, Vol. 1, p. 21). A premium is put on large numbers of students being uniformly still and silent as they are thought to acquire knowledge "as theoretical spectators" (MW, Vol. 9, p. 140). Students memorize and recite subject matter based on trust in the teacher's authority.

Dewey criticizes traditional education for being dominated by a

> medieval conception of learning. It is something which appeals for the most part simply to the intellectual aspect of our nature, our desire to learn, to accumulate information, to get control of the symbols of learning; not to our impulses and tendencies to make, to do, to create, to produce, which are in the form of utility or of art. (MW, Vol. 1, p. 18)

Given the primacy and the strength of our impulses and tendencies—to make, to do, to create, and to produce—students of traditional education

unconsciously study "the conventions and standards of the school system and school authority" (MW, Vol. 9, p. 163). They wonder about "how to *seem* to meet" the expectations of teachers (MW, Vol. 9, p. 163). Although traditional educators claim to have an exclusive interest in the intellect, progressive educators view their approach to learning as negatively affecting character because it motivates a psychologically divisive interest in cultivating appearances.

In summary, progressive education challenges the metaphysical, epistemological, ethical, and political foundations of traditional education, returning us to the idea of an artful or well-lived life. Progressive education conceives of reality as temporal; it rejects all dualisms and stresses intelligence over knowledge. At its core is a commitment to the creation of present experiences that expand the meaningfulness and efficaciousness of future experiences. Thus, progressive educators engage children in experiences that call for action, inquiry, experimentation, and collaboration. This is what Dewey describes as the scientific method. Progressive schools and classrooms repudiate the authoritarianism of traditional education. Their democratically organized embryonic communities provide students with opportunities to participate in coordinated and cooperative purposeful action. Students live and learn to live democratically by developing the dispositions needed for its practice.

Critics of the Progressive Movement in the United States

Progressive education has been criticized by members of the movement itself, most prominently, George Counts (1889–1974), Boyd Bode (1873–1953), and Dewey. Counts and Bode argued that it focused on the individual at the expense of formulating a relevant social and political philosophy. They felt that progressives had failed to refashion education as an instrument of democratic reform.

Dewey criticized progressives for failing to appreciate the values inherent in traditional education and the new and more difficult challenges created by their own pedagogical approach. More specifically, Dewey criticized progressive educators for interpreting their students' spontaneous activity as a mark of freedom. He urged them to prioritize intelligent activity and to engage students in activities that would move their experiences toward greater organization. No experience, he argued, is educative unless it tends toward greater understanding and a more orderly arrangement of that understanding. Dewey argued that a school curriculum was a model for this orderly arrangement. The school curriculum should remain a goal of progressive education, even though, it is also a goal of traditional education.

Progressive education inspired its fair share of traditional reactionaries, Arthur Bestor (1908–1994) being the most vocal. He argued that the ultimate purpose of education is intellectual training, understood as the cultivation of thinking by studying the academic disciplines, and he believed that progressive education completely undermined this endeavor. The new and expanding departments of educational science, psychology, assessment, and measurement were also critical. For example, new scientific instruments revealed that students of traditional education did develop a passion for learning—they engaged with subject matter in a sustained, disciplined, and deep way—and that progressive educators frequently failed to teach the most basic skills. Unfortunately, these scientific studies overlooked the basic tenets of progressive education: that each experience is a singular event that lives on in unpredictable and unfathomable ways and that individuals are unique. Philosophers of education have become increasingly disillusioned with the optimistic naïveté of progressive education. Informed by advances in psychoanalysis, materialist historicism, feminism, postmodernism, critical theory, queer theory, and race theory, educational philosophers contest the progressive focus on democracy (as opposed to social justice and equity), teleological reasoning, and the scientific method.

Historically, criticism of progressive education has spiked whenever national interests are under threat, during World War I (1914–1919), the Sputnik crisis (1957), and the publication of *A Nation at Risk* (1983), for example. In 1957, progressive education was held responsible for the United States's scientific and technological inferiority to the Soviets. In 1983, declining rates of literacy and numeracy led to a renewed emphasis on implementing minimal national learning standards.

Conclusion

Ironically, early 20th-century progressive education spawned many of the developments that contributed to its demise, most spectacularly, the scientific study and management of education. As a result, the opportunity to make discretionary curricular and pedagogical judgments has been eroded in the

name of standardized curriculum, competencies, and testing, the national measurement of teacher effectiveness and the professionalization of school leadership. Today, progressive philosophy of education is kept alive by—among others—Philip W. Jackson, Maxine Greene, Nel Noddings, and David T. Hansen. Together, such philosophers of education have inspired a generation of teachers committed to the uniqueness of children and to intelligent educational practices that support democracy in its most ideal sense.

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See also Addams, Jane; Aristotle; Democratic Theory of Education; Dewey, John; James, William; Pestalozzi, Johann H.; Rousseau, Jean-Jacques

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Project Method

The project method, also discussed under headings like project work, project approach, and project-based learning, is one of the standard teaching methods. It is a subform of action-centered and student-directed learning and an enterprise in which children engage in practical problem solving for a certain period of time. Projects, for example, may consist of building a motor boat, designing a playground, or producing a video film. For the most part, projects are initiated by the teacher, but as far as possible, they are planned and executed by the students themselves, individually or in groups. In project work, the students generate tangible products that frequently transcend disciplinary boundaries and are typically displayed to the general public on Parents' Days or at school fairs. Unlike traditional methods, projects focus on applying, not imparting, specific knowledge or skills, and, in comparison with lecture, demonstration, and recitation, they place greater emphasis on the enhancement of intrinsic motivation, independent thinking, self-esteem, and social responsibility. This entry discusses the origins of the project method, three basic models of the method, criticism of William H. Kilpatrick's universal model, current approaches to the project method, and recent research on the method.

Origins in Europe

Historically, the project method emerged in 1577 when master builders founded the Accademia di San Lucca in Rome to advance their social standing by developing their profession into a science and to improve the education of their apprentices by offering lessons in the theory and history of architecture, mathematics, geometry, and perspective. To bridge the gap between theory and practice, science and reality, the architects subsequently expanded their repertoire beyond teacher-centered methods and

transferred their daily work of designing buildings from the studio to the academy so that the students acquired, through learning by doing and simulating real-life situations, already at school the experience and dexterity they later needed as professionals. These beginnings indicate that the project method—like the experiment of the scientist, the case study of the lawyer, and the sandbox exercise of the staff officer—has its origin in the academization of a profession and that the concept of teaching by projects is not the result of abstract philosophical deliberations, for instance, of Jean-Jacques Rousseau, Friedrich Froebel, or John Dewey, but of practical thinking of vocational education teachers who tried to activate their students' minds and make their training interesting, lively, and, as far as possible, authentic and useful.

It took, however, more than 150 years and the transfer from Italy to France before project work evolved from a sporadic and voluntary event for few people to a recurring and compulsory part of the curriculum for all students. Indeed, it was only in 1763 that the advanced students of the Académie Royale d'Architecture in Paris regularly got design problems (now known as *projets*) to demonstrate that they were fit to apply the principles of composition and construction they had previously learned. From the start, the project method served two functions: first, to supplement the bookish and theoretical training of the students and, second, to test their artistic and practical capabilities. In fact, the most difficult, and most cherished, part of the final examination the French students of architecture and, since 1829, students of engineering (at the École Centrale des Arts et Manufacture) had to cope with was the imaginative design of fountains, churches, and palaces; of turbines, cranes, and bridges.

Three Basic Models

Studying the best European practices, William B. Rogers, the founder of the Massachusetts Institute of Technology (MIT), discovered the "project" at Karlsruhe and Zürich and, in 1865, was the first to adopt it as a new method of instruction in the United States. In 1876, his successor as president of the MIT, John D. Runkle, noticed a disturbing absence of manual skills among his engineering students and established a school of mechanical arts to remedy the defect. More important, he propagated the introduction of manual training as a vital branch of the common school curriculum and thus, at the same time, paved the way for the dissemination of the project method top-down from the college to the school and, eventually, the kindergarten. During the four decades that followed, notable educators established three distinct types of project work that have retained their appeal and importance until today.

The *linear model*, developed in 1879 by Calvin M. Woodward, professor of mechanical engineering at Washington University in St. Louis, Missouri, and founder of the first Manual Training School in St. Louis, complied with the main didactic principle that successful teaching must progress from the easy, simple, and known to the difficult, complex, and unknown. At the Manual Training High School, the classes in handicraft and mechanical drawing were therefore conducted in two steps. Following the "Russian system," the students initially learned the alphabet of tools and techniques by passing through a series of basic exercises, and then, they got time to carry out "projects." Woodward regarded the projects as synthetic exercises. Earlier, students had learned skills in isolation and under direction of the teacher; now, they applied these skills in context and on their own, by, for example, designing and making book racks, fire tools, or steam engines. In this way, the training advanced systematically from principles to applications, or—in Woodward's words—from "instruction" to "construction." At the close of the fourth year, the manual training course was completed by what he called the "project for graduation."

The *holistic model*, put forward around 1900 by Charles R. Richards, professor of Manual Training at Teachers College, Columbia University, New York, and influenced by Froebel and Dewey's concept of active occupations, replaced Woodward's consecutive system of instruction and construction by an integrative system of "natural wholes" so that the students could work together and participate in the planning and executing of the project right away. As proposed by the teacher, pupils of the Horace Mann Elementary School decided, for example, to reconstruct a Greek temple. Having planned the project and acquired the necessary skills, each child made a column, a capital, and a gable out of clay, as well as a segment for the foundations, the wall, and the roof. Evaluating the results, the students picked the best pieces of work, cast them in plaster, and put them together in a temple three yards long. According to Richards, the pupils were motivated by the fact that they cooperated in a meaningful way and obtained at the appropriate moment that knowledge and skill they needed to achieve their

goal. Consequently, "instruction" did not—as with Woodward—precede the project but was an integral part of "construction."

The *universal model*, propagated by William H. Kilpatrick of Columbia's Teachers College in his world-famous article "The Project Method" of 1918, defined the project broadly—calling it a "hearty purposeful act." Whatever children undertook, as long as they did it with purpose, was a project. No aspect of valuable life should be excluded. For Kilpatrick, the project was not a specific method restricted to manual training and certain stages of teaching but a general method that could be used all the time, in all subjects, and comprising all forms of behavior and learning—from making a dress, solving a mathematical problem, and writing a letter to memorizing a poem, watching a sunset, and listening to a sonata. Apart from reading, writing, and arithmetic, there was no prescribed curriculum, and the project work did not even require active doing. Children who presented a drama realized a project, as did those children who sat in the audience and enjoyed the play. Ideally, the project was proposed and carried through by the students themselves, without any help from the teacher, because students could increase their self-confidence, self-reliance, and self-efficacy and improve their ability to initiate, plan, execute, and judge only if they had "freedom for practice" and exercised "practice with satisfaction." Kilpatrick believed that these abilities were essential for the preservation and advancement of democracy.

Kilpatrick's Failure and America's Democratic Mission

From the outset, the third model—unlike the first two—was heatedly disputed among conservative as well as progressive educators. Even the two colleagues at Teachers College whose psychologies of learning Kilpatrick used to buttress his position raised their voices and objected to his broad definition and his child-centered concept. Edward L. Thorndike and John Dewey, commonly characterized as proponents of opposing educational philosophies, unanimously warned of employing Kilpatrick's project method as the only or even the major teaching device, since learning limited to incidental and instrumental actions was likely to be too disjointed, scattered, and haphazard to provide the children with the continuous development they needed for a thorough mastery of the fundamentals and a deeper understanding of the issues and subjects involved in the project.

Generally speaking, and summarizing the criticism put forward by educators such as Ernest Horn, W. W. Charters, Boyd H. Bode, Ernest E. Bayles, Philip W. Jackson, and Ellen C. Lagemann, Kilpatrick's project method had four serious shortcomings:

1. It accepted as valid only the momentary interests of the children and claimed that high intrinsic motivation would guarantee best results in learning.
2. It offered no practical solutions for the everyday business of the teacher pertaining to subject matter, classroom management, and student performance.
3. It propagated a concept of freedom that encouraged the development of selfish and individualistic attitudes rather than the—intended—formation of democratic and social virtues.
4. It was a philosophy of education while pretending to be a method of teaching, promising help, advice, and guidance.

In the late 1920s, Kilpatrick recognized that he had made a mistake by extending the project beyond its traditional sphere and quietly refrained from using the term for his educational program. Despite scathing criticism by Dewey and others, and despite the fact that Kilpatrick's concept has never successfully been implemented, his article of 1918 is still regarded worldwide as the classic text of the project approach and as the best statement of putting Dewey's educational theory into practice.

In the United States, the call for practical learning was part of the national creed. Since the mid-19th century, Americans considered learning by book and rote as "aristocratic," whereas they regarded learning by training and doing as "democratic" because it utilized the experiences of the productive classes, facilitated the advancement of practically inclined children, and promoted the formation of socially responsible citizens. Like laboratory and field work, the project method seemed to fulfill perfectly the public desire for life activity and equal opportunity for all.

No wonder that the project once again crossed the Atlantic and was fiercely debated, especially in countries struggling to overcome their autocratic or fascist past. In the 1920s, Soviet educators

appreciated the project as the ideal approach to accelerate the transition from Czarist feudalism to democratic socialism, but in 1931, they were silenced when the Central Committee of the Communist Party intervened and forbade the implementation of project curricula, declaring that project work was incompatible with the party's notion of systematic teaching and dogmatic indoctrination. Nearly 50 years later, in connection with the student rebellion, a powerful movement emerged in West Germany and, by explicitly mentioning Dewey's *Democracy and Education* and Kilpatrick's "Project Method," identified the project taken in its wide sense as the one and only means to vitalize learning, humanize teaching, democratize school, and transform society. The movement rapidly spread to Denmark, the Netherlands, and Great Britain. In the 1980s, the project (broadly defined) experienced a revival in the United States, where the method (narrowly defined) had outlasted the crisis initiated by Kilpatrick in technical, agricultural, and science education.

Current Concepts and Empirical Findings

Today, the project method is being discussed primarily under two headings. As project approach, propagated by Lilian G. Katz and Sylvia C. Chard, the method refers to any "in-depth investigation of a real-world topic worthy of a student's attention and effort" that is taken up and carried through rather independently by a class, a group, or an individual student. (Chard's Project Approach website provides an overview of the approach and the resources for implementing it.) In preschool and kindergarten, the project could be used as the only method, but in elementary school, high school, and college, it has to be supplemented by systematic instruction. Without knowing it, Katz and Chard follow in the footsteps of Woodward and his linear model. While systematic instruction addresses the deficiencies of students and ensures the acquisition of skills, they say, project work builds on the proficiency of students and stands for the unaided application of skills acquired earlier. But unlike Woodward, Katz and Chard do not confine the project to manual work and construction; the students are allowed to grapple with any real phenomenon they cannot explore and attend to through Internet and library research alone.

Developed in particular by teams around Phyllis C. Blumenfeld and John R. Mergendoller, project-based learning differs from the project approach in that it follows Richards's and Dewey's holistic model and integrates both phases—the acquisition of skills and their application—into a single process. Frequently, the phrase *project-based learning* is interchangeably used with *problem-based learning*, but, in accordance with Dewey, one should clearly distinguish between both concepts. Whereas problem-based learning is inquiry centered and restricted to abstract problem solving, project-based learning is production centered and requires the use of theoretical as well as practical problem-solving strategies. Some educators still adhere to Kilpatrick's child-centered project method, yet in most cases, they advocate projects that—although "allowing for some degree of student 'voice and choice'"—are "carefully planned, managed, and assessed to help students learn key academic content, practice 21st Century Skills (such as collaboration, communication & critical thinking), and create high-quality, authentic products & presentations," according to the website of the Buck Institute for Education, whose work focuses on project-based learning.

Referring specifically to Dewey, Lev Vygotsky, and Jerome Bruner, all modern educators situate the project method within a constructivist-based theoretical framework. They regard students as active agents engaged in authentic tasks, solving real problems, and generating knowledge and skills in dynamic interaction with their physical and social environment, thus creating meaning of themselves and the surrounding world. They acknowledge, however, that the constructivist approach must be balanced by a concept of structured teaching and direct, strong instructional guidance.

According to recent research, project work meets, to some degree, the expectations of its proponents in that the method improves—besides factual learning—the students' motivation, self-confidence, and critical thinking, as well as their problem-solving, decision-making, investigative, and collaborative skills. But there is evidence, too, that there exist barriers hindering the achievement of the objectives intended and striven for, since neither students nor teachers always fulfill the necessary premises and qualifications completely. Teachers, for example, find it difficult to suggest and design challenging projects, monitor progress, give feedback and support when and where needed, create and maintain an atmosphere of study and work, and develop tools for assessing the results. Correspondingly, students often feel ill prepared and overwhelmed by the complexity of the tasks at hand; they may have no clue as to how to define the problem, choose the proper

methodology, find the necessary resources, revise plans and procedures if appropriate, keep deadlines, and present the results fittingly. After all, projects can fail, since few students are constantly disposed to self-directed, creative, innovative learning. In principle, students enjoy the freedom of action the project method offers them, but, as in traditional settings, they frequently employ strategies of bargaining, shirking, and playing dumb to lessen, avoid, or even resist the additional time, energy, and imagination required by project work.

Michael Knoll

See also Bruner, Jerome; Dalton Plan; Dewey, John; Problem-Based Learning; Productive Labor and Occupations: From Dewey to Makarenko; Progressive Education and Its Critics; Radical Constructivism: Ernst von Glasersfeld; Vocational Education

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Psychoanalytically Oriented Theories of Child Development

Psychoanalysis remains the most comprehensive psychological theory yet devised. It offers an explanation of psychological processes (the "model of the mind"), a developmental scheme (the psychosexual stages), and a method of treatment for mental and emotional disorders originating in experiences during the various stages of human development from infancy to adulthood. Beginning with the origins of psychoanalysis in the pioneering work of Sigmund Freud, this entry discusses the paths that psychoanalytically oriented theories of child development have taken from Freud's time to the present day.

Sigmund Freud

Sigmund Freud (1856–1939), an Austrian neurologist and the founder of psychoanalysis, viewed himself as a scientist and believed that his theories would eventually find confirmation in neurobiology. His *Project for a Scientific Psychology* (1895) was an attempt to ground the building blocks of our mental lives in neurobiological mechanisms. This work was never published, as the neurobiology of his day was not adequately advanced to complete the task. The neurobiology of the late 20th and early 21st centuries has since confirmed many of Freud's most central ideas (see the discussion in Schore, 1997), representing a return to psychoanalysis and to his unfinished *Project*.

Freud believed that all psychological problems had their root in childhood and, thus, could be considered "developmental psychopathology." This idea has influenced all subsequent psychodynamic perspectives. His developmental theory is known as a "drive theory" because of his belief that all development is set in motion by the instinctual drives of early infantile sexuality. He believed that "ontogeny recapitulates phylogeny," that a child's developmental phases (ontogeny) recapitulated human evolutionary history (phylogeny).

For a fuller description of Freud's developmental scheme, see the entry on Sigmund Freud in this encyclopedia.

Object Relations Theory

Object relations theory originated as part of Freud's drive theory, the "object" being the libidinal object, the target of the drive. This perspective differs from Freud in its proposition that the primary human motivation is for object contact, not drive discharge. Object relations theory leads to a concept of the self, which develops through experiences with caretakers (objects). The structure of the self is formed from the internalization of early relationships. This idea is supported by infant research (especially Stern, 1985), which has shown that the infant is programmed to seek contact and relationships. Object relations

theory suggests that if good object relationships do not result from the parent–child attachment, the formation of the self will be arrested and will not function well.

Melanie Klein

Klein (1882–1960), a Viennese-born British psychoanalyst, saw drives as the force through which infants organize their internal fantasy worlds (she preferred the term *phantasies*, to denote that they are unconscious and to distinguish them from conscious fantasies). Her emphasis was on the experiences infants internalized from their object relationships.

One of Klein's most important contributions is the concept of *projective identification*. She believed that this phenomenon emerged as a result of negative developmental experiences, such as abuse, abandonment, and neglect that occurred before a person was able to acquire language (preverbal). She believed that when individuals have no language to communicate their internal struggles, they will unconsciously attempt to induce the feelings related to those early developmental experiences in another in order to be understood. An understanding of this phenomenon is critical to treatment of people who have lived through significant preverbal developmental impingements.

Donald Winnicott

The British pediatrician and psychoanalyst Donald Winnicott (1896–1971) added to psychoanalytic literature an emphasis on the importance of the environment to development. He believed that the individual and the environment are interdependent and that every person is involved in a maturational process that pushes the person to develop in a given direction. He used the term *holding* to describe the activities that mothers provide to their infants to support and strengthen their immature egos and the term *holding environment* to describe the overall conditions necessary for healthy development to occur.

From this perspective, an infant will *come into being* depending on whether conditions in the holding environment are adequate or inadequate. If the maternal care is overstimulating or neglectful, the resulting psychic overload can lead a child to experience intrapsychic trauma, for which it has no defenses. Winnicott used the term *good enough mother* to capture the middle ground that maternal caretakers need to find between subjecting the infant to too much stimulation on the one hand and not providing enough responsiveness on the other. This middle ground of responsiveness is necessary for an infant to develop optimally.

When adequate holding takes place through development, the child acquires an authentic sense of being alive, which Winnicott referred to as the *true self*. If, however, adequate holding has not occurred and the infant must endure impingements of overstimulation or neglect, a *false self* develops: a self-deceptive mask that makes the person feel disconnected from his or her true self.

Current brain research is now offering confirmation that the growth and integration of the brain itself needs to be protected from too much stimulation, validating Winnicott's description of the maturational process as a general sketch for the interpersonal building of the brain.

Margaret Mahler

Mahler (1897–1985), a Hungarian-born physician and child psychoanalyst, de-emphasized the influence of drives, contributing instead consideration of genetic factors in her view of development. She proposed a scheme that included two tracks of development: separation and individuation. Her notion of separation does not refer to physical separation but rather psychological differentiation. The track of individuation leads to a child developing his or her own individual characteristics and intrapsychic structures.

Her theory of development begins with children in a state of undifferentiation from their caregivers during the first five months of life (the *autistic* and *symbiotic* phases) and progresses to the gradual achievement of separation and individuation occurring from the 5th to the 36th month, culminating in the acquisition of *object constancy*.

Object constancy is one of the most important concepts in psychoanalytic developmental literature. This refers to the ability to hold representations in the mind in the absence of the actual object and to acknowledge the separate existence of other people. When the primary caretaker is not available, this capability allows the child to cope with absences, interact with substitutes, remain regulated, and maintain confidence that the caretaker will return. The child internalizes a mental representation of the caretaker, which allows the child to tolerate separations. This is known as the acquisition of *psychological structure*, internal resources a child can turn

to in the absence of the caretaker. This concept is important clinically, especially in the treatment of personality disorders. Many people with personality disorders have not acquired object constancy, and their emotional and behavioral symptoms are a reflection of this unmet developmental need. Treatment must account for this deficit.

Otto Kernberg

Ottp Kernberg (1928–) and his family fled Nazi Germany in 1939 for Chile, where he studied medicine, psychiatry, and psychoanalysis before emigrating to the United States in 1961. Perhaps, his most important contribution to psychoanalytic developmental theory is his delineation of three levels of personality organization.

In the higher level, the *neurotic* person has a well-integrated ego, a stable sense of self, and good social adaptation. A person at this level has acquired object constancy and is able to employ a higher order of defenses. This type of personality may be prone to experiences that serve to enfeeble, but the individual does not fragment and lose contact with reality when this occurs. These individuals have internal resources to turn to and are able to adequately manage personal difficulties when they arise.

In the intermediate level, the *borderline* person is less integrated, less stable in self-concept, and struggles with social interactions. A person at this level has not yet acquired object constancy and uses more primitive defenses, such as splitting, projection, and denial. This type of personality is prone to fragmentation when under stress.

In the lower level, the *psychotic* person's internal world is characterized by lack of integration, instability in self-concept, and profound difficulties in social interactions. These individuals are unstable, chaotic, and fragmented.

Many have wondered what the term *borderline* (as in "borderline personality disorder") refers to. This term captures the state of personality organization that lies developmentally between psychotic and neurotic organization. The clinical significance of this concept lies in the importance of determining the developmental level of a client's personality organization, which will have powerful implications for treatment planning.

Ego Psychology

Ego psychology flowed from Freud's structural theory, in which he delineated the structures of the mind (id, ego, and superego). Ego psychology shifted the emphasis of Freud's original drive theory to a focus on the ego as the structure that relates directly to the interpersonal world. It is more concerned with exploring a person's personal realities and social interactions than it is with exploring intrapsychic depths. Ego psychology describes in detail the specific functions of the ego and its defenses, which became the focus for developmental theories. From this perspective, looking at the defense mechanisms a person uses will provide an approximation of the developmental age from which a person is operating.

Anna Freud

Anna Freud (1895–1982), daughter of Sigmund Freud, is a major voice of the ego psychology perspective. She made an important contribution to psychoanalytic developmental theory with her concept of *developmental lines*. She believed that development moves back and forth along multiple lines rather than staying on one linear path. In other words, a child can develop well in one area but not in another. She proposed that the progress a child attains on a given developmental line is the result of the interaction of drives, ego development, and the quality of the ego's relationship with the environment.

Developmental Theories of the Self

Theorists in this area split from classical psychoanalysis by rejecting the idea that the primary human motivation is drive discharge, believing instead that human beings are primarily motivated toward self-development.

Heinz Kohut/Self-Psychology

Kohut (1913–1981), an Austrian-born American psychoanalyst, proposed that a person's sense of *self* results from the empathic environment that parents create and provide for a child during development. The *self* is a structure within the mind that includes the content of one's experiences as well as id, ego, and superego.

The most important developmental concept Kohut contributed was the *selfobject*. The term is written as one word because a selfobject is an other that is experienced as part of the self and can meet essential psychological needs through development. Self-psychology posits that just as an infant does not have all it needs to survive physically in the world,

so too an infant does not have all it needs to survive psychologically. It needs an essential other (a selfobject, usually parents) to fill in missing psychological functions (*selfobject functions*). These functions help the developing child maintain a sense of self-cohesion. The empathy provided by caretakers is the key element in meeting a child's developmental needs.

This is an important concept clinically because clients will reactivate their unmet essential childhood needs in a psychotherapy relationship, using the therapist as a substitute selfobject to get needs met. This perspective is referred to as a "self psychology" because clients will gradually replace the selfobject and its functions with a self and its functions, a process that Kohut referred to as *transmuting internalization*.

Daniel Stern

The American psychiatrist Daniel Stern (1934–2012) brought empirical findings from infant research into developmental theory. He challenged Mahler's notion that infants are born in an undifferentiated state, proposing instead that an infant's sense of self is present from birth.

Stern used the term *domains* to describe developmental stages. The domains represent adaptive tasks the infant needs to accomplish at given points in time. His *domain of the emergent self* (0–2 months) is similar to Winnicott's idea of an infant "coming into being." During this time, infants are actively forming a sense of self. The *domain of the core self* (2–7 months) includes the emergence of social life, the ability to author one's own actions, the acquisition of self-coherence, and recognition of emotional states. During the *domain of the subjective self* (7–15 months), infants become aware that they have inner experiences, and a capacity for intimacy is formed. The *domain of the verbal self* (15–30 months) includes the acquisition of language. The *domain of the narrative self* connects the child to the worlds of storytelling, culture, beliefs, and values.

Two concepts are central to Stern's developmental perspective. First, he proposes the concept of *representations of interactions that have been generalized* as the building blocks of self-structure. The experience of being with an essential other forms representations of interactions that have been generalized, which gives the infant the ability to create an *evoked companion*, another who is present within oneself. Second, he emphasizes the importance of *affect attunement* as the essential experience necessary for self-development, delineating specific behaviors that caretakers need to provide for attunement to occur.

Traditional Attachment Theory

According to traditional attachment theory, the primary human motivation is to survive and grow. This takes place as a result of a person's ability to adapt to his or her environment. Attachment theory includes consideration of biological, cognitive, and social factors in a child's development.

John Bowlby

Bowlby (1907–1990), a British psychologist, psychiatrist, and psychoanalyst, is the founder of attachment theory. His biological evolutionary perspective represents a departure from psychoanalysis, but he maintains a connection to psychoanalytic theory with his concept of *internal working model*, which is central to object relations theory. He proposes that infants internalize working models of the external world—cognitive schemas that are similar to the psychoanalytic concept of *representations*.

Bowlby believed that psychoanalytic theory did not pay enough attention to the role the environment plays in a child's development. He saw attachment as an innate behavioral system, the primary function of which is to provide the infant with proximity to the caregiver. *Attachment behaviors*, such as crying, clinging, and so on, serve the purpose of eliciting responses from caregivers. The attachment relationship provides a *secure base* from which infants can explore their environments. *Patterns of attachment* are gradually formed as a result of early attachment experiences with caregivers. Bowlby believed that these patterns (later delineated by Mary Ainsworth and Mary Main) determine the patterns that organize attachment behaviors for the rest of a person's life.

When infants are separated from caregivers, they will attempt to bring about reunion. If the caregiver is unavailable, a protest–despair–detachment cycle begins. Infants initially *protest* by employing attachment behaviors in an attempt to subdue separation anxiety. The infant will then scan the environment for signs that the caregiver may return. If the caregiver remains unavailable, the infant experiences *despair*, grief, and mourning. The child will become increasingly hopeless and may be inconsolable. If the caregiver still remains unavailable, the infant experiences intolerable psychic pain and may *detach* from

the external world. Psychopathology in Bowlby's view is the result of disturbances in attachment.

Neurodevelopmental Attachment Theory

Neurodevelopmental attachment theory represents a return to psychoanalysis, and to Freud's 1895 *Project*, in which he tried to ground his psychological theories in neurobiology. This theory seeks to delineate the brain systems that underlie the various mental functions that process the affect (feeling) states. It presents a synthesis of psychological, neurological, and biological views of the origin and development of the self.

Allan Schore

Schore (1943–), an American clinical psychologist and researcher, believes that development arises out of the relationship between the brain, the mind, and the body of both infant and caregiver. In his view, the primary function of attachment is to regulate the developing child's affect states. If the primary caregiver provides repeated care that dysregulates the infant's right brain, this will create psychopathology.

Schore brings together much of psychoanalytic literature in his developmental conceptualization. For example, he sees the self as developing within the context of what Winnicott referred to as the *holding environment*. He stated that a large body of studies now confirms the developmental neurobiological relevance of Kohut's concept of the *selfobject*. He also believed that Stern's concept of *affect attunement* was essential as the primary caregiver must be psychobiologically attuned to the infant's needs for development to proceed. In Schore's view, the early social environment affects brain development, especially during *critical periods* during which the infant must have certain types of responses to develop. The essential developmental task of the first year of life is the creation of a secure attachment bond. These attachment experiences shape the organization of the right brain, which Schore believes is the neurobiological core of the unconscious. If a child experiences insecure attachment, these experiences are "affectively burnt in" to the infant's developing right brain and are encoded as *internal working models*.

One of Schore's most important developmental contributions is his concept of the *rupture and repair sequence*. Attunement failures threaten to rupture the attachment bond, but these ruptures, if followed by reattunement, can lead to a repair of that bond. This sequence leads to the acquisition of self-regulatory abilities, or psychological structure.

Barry J. Koch

See also Analytical Psychology: Carl Jung; Childhood, Concept of; Freud, Sigmund; Individual Psychology: Alfred Adler; Neurosciences and Learning; Recapitulation, Theory of; Rogers, Carl: Freedom to Learn

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Pure and Applied Research and *Pasteur's Quadrant*

Education research historically has been torn between the impulse to address real problems of schooling and the awareness that credibility of research hinges on its methodological rigor. This tension has yielded important benefits that are not sufficiently understood or celebrated (National Research Council [NRC], 2002). Techniques such as meta-analysis were developed originally by scholars working in education and now are tools in epidemiology, medicine, criminal justice, and other fields. Econometric models, longitudinal studies of mobility and stratification, correlational studies of achievement, causal inference models, and advances in measurement have been developed by researchers hoping to improve schools and schooling. This entry discusses attempts to distinguish between pure and applied science and considers the influence of Donald Stokes's *Pasteur's Quadrant* on current thinking about the distinction and its application to research in education.

Tensions between the practical and theoretical inspirations of education research are embedded in the more general dichotomy of pure and applied science, which has been a focus of the philosophy of science at least since Aristotle worked on it in the 4th century BCE. During and after World War II, the basic/applied divide became central in debates over science policy, in the United States and elsewhere, thanks in large part to the influential work of Vannevar Bush (1944), who argued that basic science was the source of technological innovation. The so-called linear model, in which "innovation starts with basic research, is followed by applied research and development, and ends with production and diffusion," though typically attributed to Bush may have other origins (Godin, 2006, p. 639). In any case, applying it to education suggests a trajectory that starts with laboratory experiments on, for example, human cognition; proceeds to the development of testable hypotheses relevant to teaching; and results in techniques adopted by classroom educators.

Observation of how education research—and indeed most of science—originates, is conducted, and, ultimately, is used suggests a less linear route (see also NRC, 2012). Although Bush's assertion that the "federal government had both the authority and the obligation to support basic research . . . has remained unerringly right" (Atkinson, 2006, p. 1), the bright line between basic and applied science is now viewed by many scholars as overdetermined and even, perhaps, as having "outlived its usefulness" (NRC, 2002, p. 20).

If the theory/practice distinction was seen as troublesome by some important scholars (e.g., Cronbach & Suppes, 1969), its weaknesses garnered renewed and wider attention, thanks to the work of the Princeton University political scientist Donald Stokes. In *Pasteur's Quadrant*, Stokes praised Bush's insights but worried that his "canon on the essential goal of basic research gives too narrow an account of the *motives that inspire* [italics added] such work" (Stokes, 1997, p. 5). Stokes's elegant 2 × 2 table (Figure 1), which represents what might be called the nonlinear alternative to Bush's model, has become a fixture in the science policy literature. Pure basic research, the type associated with theoretical physicists like Niels Bohr, is not influenced by considerations of use but rather by the quest for "fundamental understanding." Thomas Edison, in contrast, was motivated almost entirely by considerations of use and had little or no interest in advancing theoretical knowledge. The intermediate zone is associated with Louis Pasteur, whose work on crystallography and microbiology relied on and advanced basic science but was heavily use inspired.

Many education researchers would position themselves in the quadrant that Stokes named after Pasteur—that is, their work is use inspired but aims for basic and generalizable knowledge too. Scientific inquiry about schools and schooling is inspired by experience, relies on basic knowledge, and seeks to advance new knowledge that may not have obvious or immediate application. Simple linearities in the conventional rhetoric about "getting research into practice" are inadequate without consideration of "the wisdom of practice" (Shulman, 2004). Incorporating this "two-way street" means explicitly valuing experience, intuition, and motivation as progenitors of scientific inquiry generally and in education specifically (Feuer, 2006).

As theory, *Pasteur's Quadrant* sparked interest and reaction among scholars of science and science policy. And because it was written in a language easily accessible by people not necessarily trained in philosophy or political theory, the book reached wider audiences and helped crystallize emerging policy ideas about public funding of

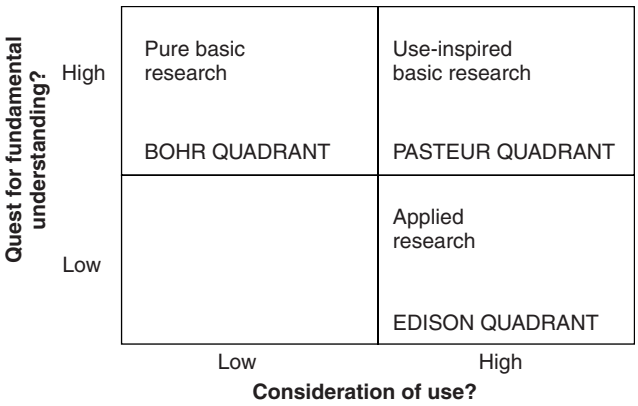

Figure 1 Stokes's Model of Scientific Research
Source: Adapted from Stokes (1997).

education research. Beginning with the administration of George W. Bush (no relation to Vannevar) and continuing through the Obama administration, Stokes's themes were clearly discernible.

Russ Whitehurst, the first director of the newly configured U.S. Institute of Education Sciences, is credited with the dominant emphasis on experimentation as the "gold standard" in research, a preference that led some critics to place him in or near the Bohr quadrant. Ironically, though, in his defense against those who found him removed from the real world of classrooms, Whitehurst likened himself to Edison, arguing for

> the importance of activities in Edison's quadrant, particularly for topics in which there is a large distance between what the world needs and what realistically can be expected to flow from basic research, and for topics in which problem solutions are richly multivariate and contextual. (Whitehurst, 2003, p. 3)

His successor, John Easton, who had previously led a research consortium established to inform practice (Roderick, Easton, & Sebring, 2009), emphasizes theory and method as the cornerstones of useable research even if the agenda is inspired primarily by practitioners in the field. His goal for U.S. Institute of Education Sciences is to make "our research and evaluation more relevant and usable . . . while . . . building a stronger *science of education* [italics added]" (Easton, 2011, n.p.).

Regardless of which quadrant Whitehurst and Easton might argue is their most comfortable home, it is clear that they differ primarily in terms of the emphasis they place on user-generated versus researcher-generated programs of study and in terms of their preference for different methodologies of scientific inquiry.

The debate over quality and use of education research is not likely to subside any time soon, especially as politicians responsible for federal budgets are tempted to curb spending on research that is not obviously applicable. This, too, is not a new phenomenon. *Pasteur's Quadrant* offers a useful framework for science policy, clarifies confusion over "basic" versus "applied" science, and can be a guide to consideration of specific challenges facing education theory and practice.

Michael J. Feuer

See also Educational Research, Critiques of; Philosophical Issues in Educational Research: An Overview

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Qualitative Versus Quantitative Methods and Beyond

Since the early 1980s, an important methodological debate—with complex epistemological underpinnings—has been taking place among educational researchers worldwide. At times lively and intemperate enough to be labeled as "the paradigm wars," recently the heat has diminished and a (perhaps uneasy) truce is in effect. The dispute has focused on the merits, the demerits, and the purported incompatibility of qualitative and quantitative research methods; peacemakers have often suggested that both approaches have their place and that they can fruitfully be combined using mixed methods approaches to research. This entry provides an overview of the key issues that have been discussed.

Historical Antecedents

Debates about knowledge and truth, and how to attain them, have been a part of Western philosophy since ancient times; even then, several different epistemological schools of thought existed, making the arguments among modern research methodologists a continuation of a discussion with ancient roots.

In brief, and following the account given by R. Burke Johnson and Robert Gray in their discussion of the prehistory of the paradigm wars, ancient Greece witnessed the emergence of three schools of thought: (1) the proto-rationalists, absolutists who looked for certainty in entities, for example, Socrates (470–399 BCE) and Plato (429–347 BCE); (2) the sophists, ontological relativists, for example, Protagoras (490–420 BCE); and (3) the proto-empiricists, realists whose goal was to obtain understandings of what humans see and experience in their everyday lives, for example, Aristotle (384–322 BCE). These camps differed in their conceptions and theories of universal truth, with proto-rationalists viewing truth as unchanging, sophists viewing truth as being changing and relative, and proto-empiricists taking a realist view of truth wherein what is seen is what could be believed as being real and regarding intersubjectivity (i.e., wherein agreement and consensus is emphasized) as a facet of truth. A case can, therefore, be made that the proto-rationalists can be viewed as distant ancestors of the quantitative methods school, whereas the sophists could be viewed as ancestors of supporters of qualitative methods. In contrast, proto-empiricists could be viewed as ancestors of supporters of *both* quantitative and qualitative methods.

Debates about the proper object of knowledge (universals or particulars), the proper way of acquiring knowledge, and the limits of human capabilities in this respect continued through the Middle Ages and the Renaissance to the modern era. By the early decades of the 20th century, Continental philosophical traditions had given birth to hermeneutical or interpretive inquiry in the social sciences and education, while the British empiricist tradition in philosophy (in conjunction with its Continental offspring, logical empiricism or logical positivism) had played a role in the deployment of empirical research methods. In the judgment of many, there seemed to be an

unbridgeable epistemological gap between these two methodological approaches.

The Paradigm Wars

In the 1980s, debates between members of the quantitative and qualitative camps—hereafter referred to as *quantitative purists* and *qualitative purists*, respectively—were so contentious that these divisions were known as *paradigm war*s. The educational psychologist N. L. Gage was one of the first authors to use this phrase, which he considered to be apt because the two positions in the dispute each had some resemblance to the incommensurable paradigms described in Thomas S. Kuhn's classic work *The Structure of Scientific Revolutions* (1962). In the early years of the debate, the opposing positions reflected several stark differences with respect to philosophical underpinnings, with quantitative purists holding assumptions that were, in general, consistent with positivism or even the stronger view, logical positivism (Phillips & Burbules, 2000), and with qualitative purists holding assumptions that were consistent with perspectives such as constructivism, critical theory, idealism, relativism, humanism, and hermeneutics (Denzin & Lincoln, 2011). What made the debate difficult to adjudicate was its complexity; the two sets of purists differed with respect to conceptual issues such as ontology (i.e., nature of reality), epistemology (i.e., nature of knowledge), methodology (i.e., a broad approach to research with general preferences for certain types of designs, sampling logic, analytical strategies, etc.), axiology (i.e., *values*, which are individual beliefs that each researcher holds that guide her or his conduct of research; and *ethics*, which are agreed-on norms, codes, rules, and/or policies—such as the principle of not causing harm to others called nonmaleficence—set by professional organizations, government agencies, research bodies, and other units that govern the conduct of research and that make researchers who belong to that unit accountable), rhetoric (i.e., style of discourse used in research reports), knowledge accumulation (e.g., which, depending on the underlying research philosophy, includes generalization, replication, reconstructions, historical revisionism), criteria for evaluating research (e.g., which, depending on the underlying research philosophy, includes concepts such as reliability, validity, trustworthiness, dependability, confirmability, transferability, and authenticity), and the role or research "posture" of the inquirer.

Broadly speaking, then, as noted by Anthony J. Onwuegbuzie and colleagues, quantitative purists believed that research should be objective (ontology); researchers should eradicate their biases, remain emotionally disconnected and uninvolved with the objects of study, and test or empirically justify their stated hypotheses (epistemology); time- and context-free generalizations are possible and optimal, and real causes of events can be determined reliably and validly via quantitative approaches (methodology); research is value free (axiology); research reports should be written with rhetorical neutrality, involving formal writing style using the third person and technical terminology, wherein establishing and identifying causal laws describing individual and/or group behavior is the major focus (rhetoric); external replications represent the apex of research (knowledge accumulation); criteria such as reliability, internal validity, and external validity should be maximized (quality criteria); external sources should determine the ethical standards followed by researchers (ethics); and researchers should assume the role of objective scientists and inform the decision makers, policymakers, and change agents (inquirer posture) (Onwuegbuzie, Johnson, & Collins, 2009).

In contrast, qualitative purists believed that there are multiple realities, which are socially constructed and shaped by the cultural context (ontology); subjective knower and known are not separable, and findings and meaning are cocreated by the researcher and participants (epistemology); time- and context-free generalizations are neither desirable nor possible, it is impossible to differentiate fully causes and effects, and research is hermeneutical/dialectical (methodology); research is value bounded (axiology); research reports should be written with thick (empathic) description, directly and somewhat informally (rhetoric); knowledge (co-) construction should involve engaging with research participants, entering into relationships with them and understanding the meanings they convey and the influence of the social, cultural, and physical contexts in which they live, and may involve observation, interviews, and reconstructions of people's stories (knowledge accumulation); criteria such as trustworthiness, dependability, confirmability, and transferability of findings and interpretations should be pursued (quality criteria); intrinsic processes should determine the ethical standards followed by the researcher, involving a tendency toward transparency (ethics); and the participant should serve as

facilitator for capturing the voices of multiple participants, with the researcher sometimes adopting a transformative, activist stance as an advocate of the participants (inquirer posture).

There was one point, however, on which both quantitative and qualitative purists agreed, but it was a point that heightened the barrier between them rather than lowering it: Both camps adhered to the *incompatibility thesis*, which, as defined by Kenneth R. Howe (2003), is the view that the quantitative and qualitative research paradigms, as well as their associated methods, are philosophically or epistemologically incompatible and thus cannot and should not be mixed together in one research study.

It seems undeniable that—as outlined by proponents of each camp—both quantitative and qualitative research approaches have inherent strengths. Specifically, quantitative research arguably is optimal for identifying prevalence (i.e., descriptive research), relationships (i.e., correlational research, causal-comparative/quasi-experimental research), and cause-and-effect relationships (i.e., experimental research), which, under certain conditions (e.g., large sample, random sample, replicated findings), can be generalized from the sample to the population from which the sample was drawn—allowing quantitative predictions to be made, and a priori hypotheses to be tested, and, consequently, theories to be confirmed or disconfirmed.

On the other hand, it can be argued that qualitative research is optimal for obtaining rich insights into experiences undergone by individuals, and the meanings they attach to them (e.g., using methods such as biography, autobiography, life history, oral history, autoethnography, and case study); and these methods also seem appropriate for studying the beliefs and the practices of groups (e.g., using research traditions such as phenomenology, ethnography, and grounded theory), which, under certain conditions (e.g., thick data collected, data saturation, theoretical saturation, and informational redundancy), can lead to the researcher achieving *verstehen* (i.e., understanding). It is also important for many research studies to take account of the fact that phenomena are situated and embedded in local contexts from which they often cannot be meaningfully abstracted.

Gradual Movement Toward a Middle Ground

Thus, although it does not settle the issue of their compatibility or incompatibility, it is clear that both quantitative and qualitative research approaches are useful for addressing different sets of questions, with quantitative research being better suited to answering questions of who, where, how many, how much, and what is the relationship among variables of interest, and qualitative research being better suited to answering why and how questions. However, neither research approach alone is useful for answering combinations of questions that involve both sets of questions. Furthermore, both approaches contain inherent weaknesses. In particular, in quantitative research, theories tested might not reflect local constituencies' understandings and might lead to confirmation bias (i.e., failing to observe important phenomena) and meaning making that is too abstract and general to be applicable to specific local situations, contexts, subgroups, and individuals. In qualitative research, knowledge (co-)constructed might not generalize to other people or other settings. A challenge for the mixed methods researcher is becoming competent to carry out both quantitative and qualitative research, as a mixed methods research approach requires; in addition, mixed methods are typically more expensive, time-consuming, and complex to conduct. Nevertheless, for some researchers, integrating qualitative and quantitative methods had logical appeal.

Although a pragmatist movement in social and behavioral science research (e.g., Hilary Putnam, Richard Rorty) began to advocate the use of mixed methods in the 1960s, it gained momentum during the 1980s. These pragmatists adhered to what Howe called the *compatibility thesis*, contending that quantitative and qualitative methods are philosophically compatible. Howe himself rejected the forced choice that is presented by the incompatibility thesis and argued that the compatibilist position "grants something to both paradigms" and, thus, "steers a middle course that avoids running aground on either the positivist or interpretivist methodological islands" (Howe, 2003, p. 38). Moreover, those with a pragmatist orientation adopted an antidualistic stance wherein binaries (e.g., objective vs. subjective, causal vs. acausal, numbers vs. words, and precision vs. description) are replaced with continua, arguing that instead of representing a dichotomy, quantitative and qualitative research paradigms and methods reside on an epistemological continuum, with mixed methods research located at the center and quantitative and qualitative research situated at the end points. According to these pragmatists, such reframing allows quantitative and qualitative researchers

alike to focus more on identifying which methods are most appropriate to address their research questions rather than on paradigmatic concerns.

Furthermore, the pragmatists made the vitally important point that although many research methods are typically associated with one paradigm (e.g., numeric data may be linked only to quantitative research; interview data may be linked only to qualitative research), there is no one-to-one necessary correspondence between research methods and research paradigms. The pragmatists argued that, for example, an experimental study could include qualitative data (e.g., data on side effects), and ethnographic studies could include quantitative data (e.g., attitude scores). Thus, the pragmatist philosophy of *what works* manifested itself in the promotion of mixing and matching research strategies that best address the research question(s) of interest.

During this time, the pragmatist movement was also aided by an influential essay authored by Jennifer Greene and her colleagues, in which they provided the following five rationales for conducting mixed methods research:

> *Triangulation* (i.e., compare findings from quantitative and qualitative analytical strands)
>
> *Complementarity* (i.e., seek elaboration, illustration, enhancement, and clarification of the results from one analytical strand with findings from the other analytical strand)
>
> *Development* (i.e., use the findings from one analytical strand to help inform the other analytical strand)
>
> *Initiation* (i.e., examine contradictions and paradoxes that arise when findings from the two analytical strands are compared that might lead to a reframing of the research question)
>
> *Expansion* (i.e., expand breadth and scope of a study by using multiple analytical strands for different study phases) (Greene, Caracelli, & Graham, 1989)

As other researchers continued to clarify and to expand on rationales for conducting mixed methods in the 1980s, such as Doren L. Madey, Gretchen B. Rossman, and Bruce L. Wilson, pragmatists called for an end to the paradigm wars.

Since the 1980s, discussion of the paradigm wars has subsided considerably, although some tensions remain between purists on both sides of the "paradigmatic" fence. At the same time, the field of mixed methods research has continued to develop its identity, and numerous alternative approaches (the use of the term *paradigm* now being avoided) associated with mixed methods research have emerged, including critical realism and a transformative-emancipatory framework (Onwuegbuzie et al., 2009). At least 31 books devoted primarily or exclusively to mixed research have been published, including two handbooks; empirical, conceptual, and methodological articles on mixed methods research have appeared in high-profile journals; two peer-reviewed journals devoted to mixed methods research are being published; journal articles have identified published accounts of mixed methods research in different fields (e.g., Jennifer P. Wisdom and her colleagues' study of mixed methods in health services research); several journals have produced special issues on mixed methods research; conferences devoted to mixed methods research have been held; special interest groups of professional research associations for mixed methods researchers have been established; and websites devoted to courses on mixed methods research and face-to-face and online mixed methods research are available.

Concurrent with these developments, purists continue to vigorously highlight perceived weaknesses in the field of mixed methods research. For example, some critics have suggested that in addition to attempting to mix incompatible methods, mixed methods researchers tend to exclude discussion of essential superordinate paradigms or assumptions in order to focus on the mechanics of mixing methods, thereby foregoing crucial conversation in the name of pragmatism. The ardent nature of these discussions has prompted some authors to call for mutual respect among all researchers, regardless of epistemological orientation (Onwuegbuzie, 2012). As the field of mixed methods continues to evolve, it is likely that the philosophical differences about the nature of knowledge and meaning that have existed since ancient times will continue to engender discussion and debates regarding the use of purist and integrative methods to understand the world of educational research.

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See also Causation; Experimental and Quasi-Experimental Designs for Research: Campbell and Stanley; Hermeneutics; Kuhn, Thomas S.; Popper, Karl; Positivism; Postpositivism; Probability and Significance Testing

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Quality of Education

Education quality is notoriously difficult to define. It is possible to identify a number of perspectives on the quality in education linked to different disciplinary and philosophical orientations and underlying assumptions. Although there are tensions, there are also overlaps between perspectives, and government policies may draw on one or more perspective. This entry discusses education quality as seen through economic perspectives, management perspectives, progressive/humanistic perspectives, critical perspectives, and the human capability perspective.

Economic Perspectives

Within this perspective, quality is often defined in terms of the effectiveness and efficiency of education systems in improving learning outcomes. *External effectiveness* refers to the contribution of education systems to earnings, economic growth, and productivity. Eric A. Hanushek and Ludger Wößmann (2008), for example, argue that there is a correlation between improved quality measured in improvements in national test scores and increases in GDP (gross domestic product). *Internal effectiveness* is concerned with the functioning of institutions and appears primarily in the large, methodologically diverse literature on school effectiveness. At a general level, quality is equated with the "value added" by schools to learner performance, once learner background and school context variables are accounted for. It is used as a basis for comparing performance between schools and increasingly between countries using the results of international assessments of learning. Models of school effectiveness vary but typically identify the existence of a safe and orderly school environment, adequate facilities, support for academic success, a rigorous

curriculum, teacher preparedness, classroom resources, and effective instruction as important for raising achievement.

Internal efficiency is conceived as the success of education systems in converting inputs (money, human, and material resources) into outputs, that is, as the ratio of inputs to outputs. Cost–benefit analysis provides a way for planners to determine which inputs provide the best "bang for your buck," that is, lead to the biggest improvements in outcome per unit cost. *External efficiency* on the other hand is concerned with the individual and societal rates of return to education of different kinds of investment at different levels or sectors of the system (see, e.g., Psacharopoulos & Woodhall, 1985).

The advantages of the economic perspective for policymakers and planners is that it makes use of easily objectifiable and quantifiable measures and indicators of quality that can readily inform policy. Critics, however, draw attention to the narrow understanding of education quality that is often equated with scores on standardized tests and the absence of an explicit view of learning. They also highlight the linear nature of the input–output model of schooling that gives limited attention to the broader economic, social, and political contexts of education and to the processes of teaching and learning at the microlevel. In treating education quality primarily as a "technical issue," they pay less attention to the normative aspects of quality reflected, for example, in the values underpinning the curriculum.

Management Perspectives

Closely allied to economistic perspectives are those arising from the management literature, including that on total quality management in education. Like the economic perspective, it is concerned with the effectiveness and efficiency of organizations in delivering outcomes, although these can be defined both in absolute terms (i.e., in relation to predetermined norms and "standards") or in relative terms (i.e., as meeting the needs of different clients of education and consumers of educational products). Given this complexity, Diana Green (1994) argues that it is not possible to deal with quality as a unitary concept, and the best that can be achieved is to define clearly the criteria that each stakeholder uses when judging quality and to take into account the competing views when assessment of quality is undertaken. The attractiveness of the literature on total quality management is that it provides clear guidelines for practitioners intent on improving learner outcomes. It is, however, subject to similar criticisms as economic perspectives, for example, for treating education as a "commodity" that can be improved through technical means rather than a complex set of human processes subject to wider social relations of power and inequality and for treating learners, parents, and employers primarily as passive "clients" or "consumers" of education rather than as active agents with a range of motives and interests linked to wider social relations.

Progressive/Humanistic Perspectives

At a philosophical level, proponents of this perspective draw on the liberal humanist philosophical tradition in education dating to John Locke and Jean-Jacques Rousseau. This perspective sees human nature as essentially good and human beings as autonomous and learners at the center of meaning making. This often gives rise to a commitment to forms of learner-centered pedagogy supported by constructivist views of learning such as those proposed by John Dewey (1916), in which people learn how to construct their own meanings and to integrate theory and practice as a basis for social action, or Jean Piaget's (1972) advocacy of a more active and participatory role for children in their learning. More recently, scholars within this tradition have been influenced by sociocultural theory such as that proposed by Lev Vygotsky (1978) that draws attention to the socially and culturally mediated nature of learning. Some scholars and activists have also begun to articulate a view of education quality as integral to education for sustainable development where the quality of the curriculum, for example, is assessed in relation to its contribution to raising awareness of environmental concerns and supporting sustainable human development.

The progressivist/humanist perspective has been influential in informing rights-based approaches to education such as those adopted by the various UN organizations and nongovernmental organizations around the world. Here, quality is equated with the ability of education systems to guarantee the rights of all learners (regardless of social class, religion, language, gender, or sexual orientation) to an education that is free of forms of discrimination and that allows them to realize further rights including participation in democratic societies, linguistic and religious freedoms, sustainable livelihoods, and

well-being. Progressivist/humanist perspectives have provided a strong normative basis for understanding quality. They have been influential in informing curriculum design, teacher training, and pedagogy in many parts of the world and for challenging authoritarian, teacher-centered approaches based on behaviorist principles that continue to inform policy and practice in many parts of the world. It can be argued, however, that they are less useful as a tool for educational planners in terms of identifying quantifiable indicators of quality and, therefore, need to be complemented by more technical approaches. Critics from non-Western traditions have also critiqued the individualistic basis of some Western humanist assumptions that underpin, for example, notions of learner centeredness and counterpose this to more collectivist and communitarian approaches to learning (Tabalawa, 1997).

Critical Perspectives

Many more critical perspectives on education quality emerged in the 1960s and 1970s in the context of the emergence of worker, feminist, and antiracist movements in the Western world and anticolonial struggles in the formerly colonized world. Critical perspectives encompass a wide range of views on education quality, although they share in common an underlying view of education as producing and reproducing forms of wider social inequality. In relation to gender, for example, the quality of education is seen as inextricably linked to the reproduction of gender-based inequalities through the schooling system, for example, through the propagation of gendered stereotypes in the curriculum, the failure of schools to close the achievement gap between boys and girls, and gender-based violence. Researchers and activists interested in race equality draw attention to the reproduction of inequalities and stereotypes based on "race," language, ethnicity, and religion, while those interested in socioeconomic inequality draw attention to the role of educational organizations in reproducing class inequalities through forms of differentiation and a curriculum that favors middle-class values and dispositions. In many of these perspectives, a good quality education is also seen to have a *transformative* role in providing learners with the knowledge, skills, and raised consciousness to emancipate themselves from different forms of oppression. For critical scholars such as Paulo Freire (1970) and Antonio Gramsci (1975) for instance, the nature of the curriculum and issues of pedagogy were seen as central to challenging the existing social order (although with different implications for pedagogy—critical and emancipatory in the case of Freire and didactic in the case of Gramsci). Within this perspective a good quality education is defined as one that prompts social change, that has a curriculum and teaching methods that encourage critical analysis of social power relations and of ways in which formal knowledge is produced and transmitted, and that encourages active participation by learners in the design of their own learning experience. Another source of critical perspectives has come from anticolonial activists such as Julius Nyerere (1967), Steve Biko (1987), and Mahatma Gandhi (1910). They share in common a critique of the individualistic and instrumental nature of colonial schooling and counterpose it to more communitarian and human-centered approaches linked to indigenous cultural norms and values.

Critical perspectives are important for drawing attention to the impact of wider social relations of power and inequality on the processes and outcomes of schooling. The work of some critical pedagogues such as Freire and of feminist and antiracist scholars have had a wide impact on policy and practice in different settings and across different levels and sectors of education. Much of the literature within the critical tradition has, however, focused more on critique than on the search for viable alternatives to existing practices and as a consequence has had less to say in the form of specific recommendations for policy and practice.

Toward a Rapprochement? A Human Capability Perspective

More recent work on the quality of education has attempted to develop a rapprochement between different perspectives. Drawing on the work of the economist Amartya Sen (1999, 2009), this work defines a good quality education as one that enables all learners to realize the capabilities they require to become economically productive, develop sustainable livelihoods, contribute to peaceful and democratic societies, and enhance well-being (Tikly & Barrett, 2013). In keeping with Sen's ideas, the quality of education is perceived not purely in economic terms but as having intrinsic human worth and contributing to the realization of human rights and well-being through the development of a range of capabilities (opportunities) that can be converted into valued functionings (ways of being and doing).

Relevant capabilities may vary according to context but encompass literacy, numeracy, and a range of affective and cognitive outcomes that should be determined through processes of informed public debate. In keeping with transformative perspectives, education quality can contribute to the realization of social justice through a focus on the institutional barriers that prevent members of some disadvantaged groups from converting educational resources of one kind or another into valued functionings. Although in its infancy, the language of capabilities has begun to influence the policies of some governments (although time will tell as to whether this is a rhetorical level or whether it reflects a more profound philosophical commitment). Critics of the human capability perspective argue that through focusing on individual capabilities, it fails to sufficiently take account of inequalities between social groups based on wider structural inequalities, although this is refuted (Sen, 2009). Given the infancy of this perspective, more work needs to be done in defining and measuring human capabilities in a way that is useful for policymakers and planners.

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See also *Bildung*; Critical Theory; Dewey, John; Economic Development and Education; Education, Concept of; Freire, Paulo: *Pedagogy of the Oppressed* and Critical Pedagogy; Human Capital Theory and Education; Liberal Education: Overview; Peters, R. S.; Piaget, Jean; Rousseau, Jean-Jacques; Vygotsky, Lev

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Quintilian

Marcus Fabius Quintilianus (ca. 35 to ca. 98 CE), usually referred to as Quintilian, was a respected orator and teacher in ancient Rome, and he remains an important figure today as the author of a 12-book treatise on education titled *Institutio oratoria*. Published around 95 CE, *Institutio oratoria*, or Education of the Orator, summarizes the Roman educational system of the time, outlining the teaching methods to be used from childhood through adulthood. With an emphasis on oratory and rhetoric (which he defined as the art of persuasion), the ultimate goal of the educational system that Quintilian prescribes was *facilitas*, or facility: The ability to speak effectively in any situation. Focusing on the essential skills of speaking, reading, and writing, Quintilian wanted his students to become broadly educated citizens capable of taking action in public affairs, able to think critically and speak eloquently on numerous topics. He also argued that morals should be a part of a young man's educational curriculum, rejecting the idea that virtue is acquired naturally. He wanted his students to become citizen-orators, men of good morals and effective rhetorical skills. This entry discusses Quintilian's ideas about teaching rhetoric and oratory, their relationship to the Roman educational system of his time, and their relevance to education today.

Quintilian advocated that teachers of rhetoric and oratory can also be practitioners. Therefore, he practiced oratory himself by working as a pleader,

arguing cases in courtrooms. While apparently well known for this work making forensic arguments, Quintilian had a greater reputation as an educator. He operated his own school and made a name for himself as a master teacher. In ancient Rome, schools were typically private businesses, and parents had to pay for their children to attend. Quintilian was apparently respected enough that he received a salary from the public treasury, an uncommon practice at the time. His rhetorical skills have been criticized by some historians because he was not involved in public discourse as were other well-known classical rhetoricians. He has been compared unfavorably with the statesman Cicero (106–43 BCE) whom he admired and referenced frequently in *Institutio oratoria*. However, Quintilian never aspired to a political career such as Cicero's; he was a teacher first and foremost. Also, although only about a century separated them, they lived in different political environments. At least until the final years of Cicero's life, Rome was much more democratic. Quintilian lived in a Rome that was governed by emperors, and it was an impressive feat in itself that he could teach rhetoric for so long without drawing the ire of his rulers.

Institutio oratoria

Institutio oratoria exists as a compendium of Roman teaching practices that had already been in place for more than a century and that had been largely inherited from the Greeks. However, Quintilian also provided his own judgments regarding conflicting perspectives, making the comprehensive *Institutio oratoria* more than simply a compilation of others' pedagogies. In his writing, he refrains from dogmatism and attempts to discuss conflicting teaching practices with fairness, ultimately offering his definitive opinions about how students should be educated. During the nearly 2,000 years since its first publication, *Institutio oratoria* has had varying degrees of influence on education in Western civilization. While Quintilian periodically dropped out of popularity, his work experienced periods of resurgence throughout history, most notably during the Renaissance, beginning in the 1400s and gradually fading in the 1800s. Quintilian's work remained indirectly influential to educational programs even after that, and by the mid-20th century, renewed appreciation for Quintilian emerged. The *Institutio oratoria* remains significant today. No other single document provides as much insight into the educational system as it actually existed in antiquity.

After retiring from a 20-year career in education, Quintilian spent 2 years writing the *Institutio oratoria*. He stated that friends had asked him to write a book on "the art of speaking." Once convinced to take on the project, he intended to be comprehensive, explaining that becoming a good orator required years of educational lessons that built on one another. Quintilian believed that education begins in infancy and continues through adulthood. Most texts written about rhetorical education at the time ignored elementary education, so *Institutio oratoria* departed significantly from the common practice by addressing education even during infancy, going so far as to mention that a child's nurse should not speak ungrammatically.

During the course of the 12 books, Quintilian seems to address different audiences. Early books focusing on childhood education are directed to parents, middle books are directed toward teachers, and later books address adult orators themselves. He covers the aims of rhetoric and discusses oratorical style. Several books address technical aspects of language, including invention, parts of speech, ornamental figures, and tropes. While he was predominantly concerned with rhetoric, his examination of language and how to use it to certain effect became influential to the later study of literature.

The Roman Educational System

In the Roman educational system, two levels of masters taught the students: the *grammaticus* and the *rhetor.* Under a *grammaticus*, students studied writing, beginning with letters and sentences, and then moved on to poems and speeches. When a boy graduated to study with the *rhetor*, he built on what he learned from the *grammaticus* but went from studying speech and writing to beginning to make his own compositions. (Although girls may have been present for the basic education offered by a *grammaticus*, the study of rhetoric was reserved exclusively for boys, a reflection on the era and not on Quintilian's pedagogy.) The final stage of preparation was *declamatio*, or declamation, when students made speeches on fictitious themes about court cases or political issues. After being given a prompt, the student was expected to deliver an effective speech proposing a solution, bringing together all of the skills he had learned. In all of the students' studies, both from the *grammaticus* and the *rhetor*, there

was an emphasis on *imitatio*, or mimesis, which allowed students to use existing texts as models to follow until they were skilled enough to create their own original speeches.

While Quintilian's curriculum, like all of Roman society, emphasized oratory over written communication, he recognized the value of writing and reading. The educational system was built on the interplay of reading, writing, and speaking, with listening as a valuable supplement. He states in *Institutio oratoria* that speaking, reading, and writing "are all connected, so inseparably linked with one another, that if any one of them is neglected, we labor in vain in the other two" (Murphy, 1987, p. 125). It was not enough for a young man to practice reading, speaking, and writing on his own; he needed to work on these skills with the guidance of a teacher. Quintilian recognized that writing and speaking were reciprocally beneficial to one's learning and ability to communicate successfully. Rhetorical effectiveness in any situation, spoken or written, was the goal. Quintilian, who claimed that an orator could not be truly effective unless he was also a good man, recognized that true *facilitas* was an unachievable ideal. Still, he argued that educated men should "strive to gain the summit" of perfection (Murphy, 1987, p. 8).

Contemporary Relevance of Quintilian's Work

Much has obviously changed since Quintilian described the Roman educational system in *Institutio oratoria*. In the modern age of rapid technological advances, it is hard to conceive of a society in which oratory was the primary means of communication. As one example of the historical differences, in ancient Rome, physical texts were much more rare; therefore, published writing was savored and appreciated. The mass production of printed texts did not begin for more than 1,000 years (let alone the existence of the digital texts prevalent today). As a consequence, the act of reading was different; even in private, people typically read aloud, carefully enunciating the words. Therefore, in Quintilian's age, writing, speaking, reading, *and* listening were interrelated in ways that we might not immediately recognize today.

Obviously, some of Quintilian's pedagogy has become outdated. It is hard to understand his view that only a moral person could be a good orator as anything but idealistic. Also, although he did see value in revision in writing, Quintilian did not fully share—nor could he likely even conceive of—modern educators' view of the writing process, with prewriting, drafting, revision, and editing over the course of multiple drafts. Moreover, critics have argued that the Roman educational system's focus on imitation hindered the development of students' ability to think for themselves. The system has also been criticized for focusing so intently on rhetoric and not giving more emphasis to history or philosophy.

Despite the differences between the 1st and the 21st centuries, aspects of the *Institutio oratoria* remain relevant and worth studying. Quintilian showed a keen insight into child psychology, recognizing that children begin learning in infancy. He explained the need for scaffolding for students to build on what they had already learned. He recognized important connections among speaking, writing, and thinking. Although views of rhetoric have shifted away from an emphasis on oratory, Quintilian's objective of rhetorical effectiveness in any situation remains applicable—even if rhetorical situations might now include published op-ed commentaries, televised speeches, blogs, or other 21st-century forms of communication that he could never have anticipated.

Andrew Bourelle

See also Aristotle; Augustine; Cicero; Isocrates; Newman, John Henry (Cardinal); Plato; Rhetorical Canons; Socrates and Socratic Dialogue; Sophists

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R

Racism and Multicultural Antiracist Education

To appreciate the need for multicultural antiracist education, it is necessary first to dwell briefly on the nature of contemporary racism. This entry then reviews the forms that multicultural and antiracist education has taken in Britain, the United States, and Australia. Next, it examines the general demise of multiculturalism, before concluding with a commendation of multicultural antiracist education, including a look at how this might work in practice.

Defining and Classifying Racism

To encompass the multifaceted nature of contemporary racism, it is important to adopt a broad conception of racism, rather than a narrow one, based, for example, solely on notions of overt biological inferiority. Racism can be centered on cultural and/or religious factors as well as biological ones, or it can be based on a combination of both biological and cultural and/or religious factors. Racism can be unintentional as well as intentional; it can be direct or indirect; and it can be overt as well as covert. Moreover, seemingly positive attributes may ultimately have racist implications. For example, the subtext of statements such as "Black people are good at sports" might be "Black people are not good at academic subjects."

Racism can be dominative (direct and oppressive) as well as aversive (by exclusion and cold-shouldering) (Kovel, 1988). Racism can also become (more) apparent given certain stimuli. At soccer matches, for example, racist chanting can lead to others joining in. It should also be borne in mind that sentences that begin, "I'm not racist but . . ." will inevitably introduce a racist feeling or thought. Finally, racism is often color coded, but it can be non–color coded—anti-Semitism being an obvious example. It may also not be clear whether racism is color coded or non–color coded. Islamophobia, for example, may be related to headscarves and beards, to skin color, or to a combination. Of course, there can be permutations among these various forms of racism.

Multicultural Versus Antiracist Education

Throughout the 1970s and 1980s, and into the 1990s in Britain, there was an ongoing debate between those whose position was broadly liberal and those who were mainly politically on the radical left (*liberal* is used here in its U.K. sense, to refer to "middle-of-the-road" politics, as compared with the U.S. usage, which often designates a left-of-center political position). In Britain, while liberals wished to promote multicultural education (celebrating the diversity of cultures that make up British society), the latter advocated antiracist education (viewing the institutional racism of British society as the fundamental problem).

In other parts of the English-speaking world, issues and concerns, and in particular terminology, were somewhat different. In the United States, the debate was between multicultural educationists and

critical multicultural educationists, the former predominantly politically liberal, the latter politically left and intent on challenging the dominant Eurocentric ideology of U.S. education. More recently, Marxists Peter McLaren and Ramin Farahmandpur (2005) have advocated revolutionary multiculturalism, as opposed to "critical multicultural education," as a framework

> for developing a pedagogical praxis . . . [which] opens up social and political spaces for the oppressed to challenge on their own terms and in their own ways the various forms of class, race, and gender oppression that are reproduced by dominant social relations. (p. 147; see also McLaren & Ryoo, 2012)

For a number of years, critical race theory, which sees "race" as the overriding form of oppression rather than social class, has been a dominant force in a number of fields as well as in education in the United States. More recently, critical race theory has been adopted in the British education context (e.g., Gillborn, 2008; for a Marxist critique, see Cole, 2009).

In Australia, the left has tended to advocate an antiracist multiculturalism against "the 'spaghetti and polka' approach [of the 'simple pluralist model of multicultural education']" accompanied by "anti-racist strategies to reduce discrimination in the school system and address the issues of racism and cultural identity to all students throughout mainstream curricula" (Cope & Poynting, 1989, pp. 234–235).

The Demise of Multiculturalism

What advocates of multicultural and antiracist education have in common is a belief in the multicultural *society*, in multiculturalism. In recent years, there has been a decline in multiculturalism in the "developed" countries. An editorial in the online *Journal of Policy Futures in Education* (Peters & Besley, 2014) has succinctly described this demise. In analyzing Islamophobia since 9/11 and against the background of the Iraq War; the terrorist attacks in New York, Washington, Madrid, and London; and a number of other critical incidents, it explains that European states have officially turned away from the notion of state multiculturalism. In 2010, German Chancellor Angela Merkel stated that multiculturalism in Germany had "failed utterly" and indicated that it was an illusion to think that Germans and *Gastarbeiters* (guest workers) could live happily together. Merkel's position was repeated in 2011 by the then President of France, Nicolas Sarkozy, who lamented, "We have been too concerned about the identity of the person who was arriving and not enough about the identity of the country that was receiving him [*sic*]." Merkel's and Sarkozy's comments were quickly supported by former prime ministers of Australia and Spain, John Howard and José Maria Aznar, respectively. In February 2011, British Prime Minister David Cameron echoed the criticisms of state multiculturalism, arguing that

> under the doctrine of state multiculturalism, we have encouraged different cultures to live separate lives, apart from each other and the mainstream. We have failed to provide a vision of society to which they feel they want to belong. We have even tolerated these segregated communities behaving in ways that run counter to our values. (GOV.UK, 2011)

Cameron's target was Islamic extremism and the process of radicalization, and although he was careful not to lump all Muslims together, his contrasting of what "they feel" and "our values" serves to accentuate notions of "us" and "them." He went on to state, "We need a lot less of the passive tolerance of recent years and a much more active, muscular liberalism" (GOV.UK, 2011). Partly in response, in Britain and elsewhere in Europe, there were calls for "integration" and for a "community cohesion agenda" comprising tougher immigration and asylum laws, citizenship tests, compulsory citizenship education, and new employment policies giving preference to nonimmigrant workers.

In the United States, Barack Obama, the country's first African American president, has been elected to two terms. Although his election is to be welcomed as of great significance symbolically by all those who believe in multiculturalism and, in part, reflects the fact that the "White establishment" is becoming a minority, there is little else to celebrate. White men still hold the power, and, disturbingly but not surprisingly, given the rise of the Tea Party under Obama, a recent poll found that the majority of people in the United States held racist views (Jones, 2012). Moreover, Obama has continued and reinforced U.S. imperialism.

Multicultural Antiracist Education

In Britain, in terms of actual practice in schools, most schools have remained monocultural (promoting "British culture and values," as advocated by Cameron above, whatever that may mean), some have practiced multicultural education, and only a few have actually put antiracist education into practice.

The antiracist critique of monocultural education in the United Kingdom is that in denying the existence of the cultures of minority ethnic communities or marginalizing them, it was and is profoundly racist. The antiracist critique of multicultural education is that it was and is patronizing and superficial. It was often characterized as the three "Ss," "saris, samosas, and steel drums" (cf. "spaghetti and polka" in Australia) and was taught overwhelmingly by people outside of the culture they were teaching about (for a discussion, see Cole, 1992). Up until the late 1990s, with their prognoses that Britain is an institutionally racist society, antiracists were branded as "loony lefties" and ostracized by the mainstream. It took the Stephen Lawrence Inquiry Report (Macpherson, 1999) to change this. The report—which followed a lengthy public campaign initiated by the parents of Black teenager Stephen Lawrence, who was murdered by racists in 1993—could have gone further in its castigation of the inherent racism in British society. Nevertheless, for antiracists, it is a milestone in being the first acknowledgment by the British government of the existence of widespread institutional racism, an admission now seriously marginalized in the wake of the demise of multiculturalism and in the continuance of racism in U.K. society (Cole, 2011).

What then is to be done? Given advances in technology in recent years—most significantly the World Wide Web that enables authentic voices to be heard—*multicultural antiracist education* is now a viable proposition. Using the web creatively, multicultural antiracist education should be about the importance of antiracism as an underlying principle and about the promotion of respect and nonexploitative difference in a multicultural world. Following is an example of multicultural antiracist education derived from Cole (2011), involving learning/teaching about multiculturalism and racism in Australia. The antiracist element is in roman text, with the multicultural component in italics.

> *Multicultural* antiracist education would focus on the fact that the indigenous peoples of Australia and their supporters view Captain Cook's arrival over two centuries ago as an imperialist colonial invasion. *The students would discover that, at the time of the invasion, there were up to four hundred indigenous nations and over two hundred languages, clearly indicating a plethora of cultural formations.* Given access to a comprehensive range of resources pertaining to life in Australia, students would discover that in reality, multicultural Australia is a racialized capitalist society; that is to say a society in which certain groups are falsely categorized as belonging to distinct "races," "race" itself being a discredited scientific concept. The country is stratified on lines of ethnicity, class, and gender, with Australian-born and English-speaking white male immigrants at the top of the hierarchy and Aboriginal women at the bottom. *Students would find out that the dominant culture is the culture of Anglo-Australians, and that Aboriginal art, for example, is used as a selling point for tourism,* while indigenous communities continue to live in the most appalling conditions. Students would learn about "land rights" and other struggles, and the economic and ecological arguments pertaining to these rights. *They would be able to relate these arguments to traditional spiritual beliefs that have links with socialism: the land belongs to the people and the people belong to the land.* They would discover that Aboriginal communities have faced ongoing exploitation and oppression since the U.K. invasion. *Towards the end of 2012, The New South Wales Aboriginal Land Council sought compensation for what it described as "cultural vandalism."* Students would relate Australian indigenous struggles against injustice to other struggles for social justice in Australia, and to struggles worldwide. (pp. 179–180)

Given the multiple, though country-specific, forms that racism takes in the modern world, and in light of current attempts to denigrate multiculturalism, multicultural antiracist education should be a major priority.

Mike Cole

See also Critical Race Theory; Identity and Identity Politics; Immigrants, Education of; Multiculturalism; Religious Symbols and Clothing; Stereotype Effects and Attributions: Inside and Out; Toleration

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Radical Constructivism: Ernst von Glasersfeld

Ernst von Glasersfeld (1917–2010), a cyberneticist by training, was the creator and major exponent of the amalgam of psychological, philosophical, and educational positions known as radical constructivism (RC). Constructivism more generally has had enormous impact in science and mathematics research and pedagogy from the 1970s to the present time, with review after review saying it is the most influential theory in these fields. Within constructivism, von Glasersfeld's RC has commanded a large following.

Von Glasersfeld published well more than 100 papers, book chapters, and books in fields such as mathematics and science education, cybernetics, semantics, and epistemology. Two important books are *Construction of Knowledge* (1987) and *Radical Constructivism: A Way of Knowing and Learning* (1995); his major articles are gathered in *Key Works in Radical Constructivism* (2007). He was a philosophical autodidact who acknowledged Giambattista Vico (1668–1744) and Bishop George Berkeley (1685–1753) as the two major influences on the crafting of his own RC theory with Jean Piaget as the modern theorist from whom he took most inspiration.

The Core of RC

Von Glasersfeld repeatedly affirms that the core theses of RC are as follows:

1. Knowledge is actively constructed by the cognizing subject, not passively received from the environment.
2. Coming to know is an adaptive process that organizes one's experiential world; it does not discover an independent, preexisting world outside the mind of the knower.

These theses embody the typical constructivist mix of psychological (how one comes to know) and philosophical (what knowledge is) claims. The philosophical positions of RC are contentious and, given the widespread educational influence of the doctrine, they deserve close scrutiny. Through examination of von Glasersfeld's many writings, the foregoing can be elaborated and the following epistemological and ontological theses of RC can be delineated (as his position is indeed radical, it is

important to see his own phrasing of key points, so in the discussion that follows, several key passages will be quoted):

RC1. Knowledge is not about an observer-independent world.
RC2. Knowledge does not represent such a world; correspondence theories of knowledge are mistaken.
RC3. Knowledge is created by individuals in a historical and cultural context.
RC4. Knowledge claims are about individual experience rather than the world.
RC5. Knowledge is constituted by individual conceptual structures.
RC6. Conceptual structures constitute knowledge when individuals regard them as viable in relationship to their experience; constructivism is a form of private pragmatism.
RC7. There is no preferred epistemic conceptual structure; constructivism is a relativist doctrine.
RC8. Knowledge is the appropriate ordering of an experiential reality.
RC9. There is no rationally accessible extra-experiential reality.

Empiricist Philosophy

Clearly all RC1 to RC9 theses arise from von Glasersfeld's fundamental commitment to empiricist philosophy. He writes in different autobiographical reflections that the first philosophy book he encountered, which was during his war exile in Ireland, was Bishop Berkeley's *Principles of Human Knowledge*. It left more than a lasting impression; it framed his whole philosophical development. It is noteworthy that he nominates 1710 as the greatest year in the history of philosophy as it was the year that both Berkeley's *Principles* and Vico's *On the Most Ancient Wisdom of the Italians, Unearthed From the Origins of the Latin Language* was published. The former lays out in quintessential form the philosophy of British empiricism, while the latter expounds the position that we can know only what we make, the *verum factum* principle. The nomination of Berkeley and Vico as philosophical mentors is noteworthy because both were among Newton's staunchest 18th-century critics and were opponents of the new science of Galileo and Newton.

All the core commitments of British empiricist philosophy, but especially Berkeley's idealist variant, are preserved and endorsed in RC: Knowledge is something that individuals create and adjudicate; experience is the raw material of knowledge claims, thus, there is no immediate, epistemic access to the external world; once individual cognitive activity is recognized, it is assumed that cognitive claims are compromised, and knowledge of an external reality becomes impossible.

Idealistic Ontology

Von Glasersfeld's idealist ontology (RC9) has been widely criticized by philosophers. At different points, he professes "mere" agnosticism about the external world, saying that there might be such a thing but we have no access to it and can know nothing about it. But then at other points, he slides over into full-blown ontological idealism as when in a 1992 interview, when asked about constructivism and reality, he replied,

> The main difficulty of the question arises from the word "exist." In our human usage, it means to have some location in space, or time, or both. But since space and time are our experiential constructs, "to exist" has no meaning outside the field of our experience, and whatever an independent ontological reality may do, it is not something we can visualize or understand. (von Glasersfeld, 1992, p. 174)

This is consistent with his earlier claim that

> radical constructivism, thus, is *radical* because it breaks with convention and develops a theory of knowledge in which knowledge does not reflect an "objective" ontological reality, but exclusively an ordering and organization of a world constituted by our experience. The radical constructivist has relinquished "metaphysical realism" once and for all. (von Glasersfeld, 1987, p. 109)

But metaphysical realism is precisely the claim that there exists something beyond our experience, and that something includes the bodily self who is having the experience.

Subjectivist Epistemology

Irrespective of RC9, RC1 and RC2 maintain that scientific and everyday knowledge claims are simply not about any such external world; they are about our private experiential world. Thus,

> the fact that scientific knowledge enables us to cope does not justify the belief that scientific knowledge

> provides a picture of the world that corresponds to an absolute reality. (von Glasersfeld, 1989, p. 135)

Any epistemology that formulates the problem of knowledge in terms of a subject looking at an object and asking how well his or her experience or sensations reflects the nature or essence of the object is quintessentially Aristotelian, or more generally empiricist—even if the conclusion is that sensory experience does not reflect properties of objects at all. Of course, Aristotelians were direct realists about perception—that is, the objects of perception were material bodies. Later, empiricists were largely indirect realists—that is, the objects of perception were sense impressions generated, it was supposed, by material objects.

It is not coincidental that modern radical constructivists, once having formulated the epistemological problem in empiricist terms (RC4 and RC8), then endorse versions of Berkeley's savage critique of it, and end up with relativism (RC7) and, for von Glasersfeld and the more consistent, with idealism (RC9).

Individualism

Von Glasersfeld is thoroughly individualist in his analysis of the problem of knowledge. A person's mental states (or structures) are the repository of knowledge (RC4 and RC5), and it is the individual who adjudicates knowledge claims (RC6). This individualism might be understandable in discussing "everyday knowledge," where people think about what to have for dinner and whether the kettle is boiling, but it is inadequate for analyzing the adequacy or otherwise of scientific knowledge. Is acceleration invariant in inertial systems and why? What is produced in photosynthesis and why? What is the order of crystallization of minerals in a cooling acidic magma and why? In these cases, individual cognition depends on public cognition to be formulated and, importantly, to be appraised. Feral children have no prospect of thinking anything about inertial systems or rates of crystallization because they have no language, or at least none that encapsulates any scientific content. They have lots of Berkelian experience and stimulation, but none of this gives rise to concepts of gravity, acidity, or inertia.

RC recognizes that individual knowledge claims have to be formulated in a language, that concepts presuppose words, that words entail meanings, and meanings presuppose communities of language users. Von Glasersfeld (1989) says that

> from the constructivist point of view . . . language users must individually *construct* the meaning of words, phrases, sentences, and texts. Needless to say, this semantic construction does not always have to start from scratch. . . . But the basic elements out of which an individual's conceptual structures are composed and the relations by means of which they are held together cannot be transferred from one language user to another . . . they must be abstracted from individual experience. (p. 132)

There are good grounds for believing that all of these assertions are false. The fundamental error is the endorsement of an individual, abstractive theory of language acquisition. To put the matter starkly, individuals do not *construct* the meaning of words, they *learn*, or *mislearn*, the meaning of words. It is, of course, individuals who come to learn a language, and in this trivial sense, one might say they construct a language, but this terminology is most misleading. Learning does require attention and intellectual activity on the part of the learner; in this sense, there is intellectual construction occurring. But this undisputed sense of construction does not imply any full-bodied construction of meaning by individuals. Individuals learn meanings, they do not construct them. This was the point emphasized by Vasili Vasily Davydov and other exponents of Lev Vygotsky's linguistics; it is the point at which such social constructivists separated from the individual constructivism of Piaget and von Glasersfeld.

The issue is of some moment for science and mathematics education. Most constructivists do recognize that there is a public, symbolic, created world of science and mathematics that children have to be introduced to, the concepts of which they have to internalize. They recognize further that children are not going to discover this world, its concepts and their relationships, merely by private inquiry. This enculturation involves decisions about curriculum objectives and content and about teaching methods. These decisions are not simple; they involve considerations of social need, cultural worth, human purposes, learning styles and capacities, educational theory, and economic necessities. Introducing children to the symbolic and practical world of science in a way that alienates them from this world, that confuses them, and that makes the scientific world completely unintelligible makes no sense on any account of teaching and education: Constructivists and nonconstructivists are agreed on this point. The problem for constructivists, especially of the radical

variety, is how, given their principles, to get children to believe, understand, and make meaningful, scientific ideas that not only transcend their experience but are often in outright contradiction with their experience.

Michael R. Matthews

See also Discovery Learning: Pros and Cons; Epistemologies, Teacher and Student; Knowledge, Analysis of; Piaget, Jean; Social Constructionism; Vygotsky, Lev

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Rancière, Jacques

See Teaching, Concept and Models of

Rationality and Its Cultivation

Over the millennia, a great many philosophers and educational theorists have asserted that what marks humans off from the rest of the animal kingdom is the fact that we are *rational animals*. Along with this, many have also recognized that the rational propensities we evidently are all born with are not sufficient for the life we will (or should?) live as adults, which inexorably has led to the view that a fundamental aim of education is the fostering of this rationality. But of course, there are further complications: Dog owners everywhere will claim that their particular Fido is also a rational animal or, at the very least, that he certainly can think—the implications being, first, that we humans are not quite as special as we often like to suppose and, second, that thinking and rationality, if not identical, are at least very closely related. A skeptic will raise a further complication by pointing to the very many instances that occur of fallacious reasoning in everyday situations—the implication here being that in practice humans are only *imperfectly* rational animals. Thus, any account of rationality needs to be charitable in that it allows for the making of some mistakes—even high-functioning logicians sometimes make slips in reasoning!

But in a sense, these are quibbles; it seems incontrovertible that the fostering of rationality is desirable, and the task at hand is to settle on how it is to be characterized. It is to this task that the entry will turn.

Rationality: An Individual or Social Capacity?

First, is should be noted that there has been a tendency, among those who stress the role of education in fostering the development of the students' rationality, to treat it as an individual capacity; they follow the lead of Immanuel Kant in his famous essay "What Is Enlightenment?" (1784/1995): "Enlightenment is man's release from his self-incurred tutelage. Tutelage is man's inability to make use of his understanding without direction from another. . . . Have courage to use your own reason!" (p. 1). This raises a fundamental issue: Can rationality—or at least the exercise of this capacity—be as independent of social influences and resources as perhaps is implied here? Rodin's famous "The Thinker" epitomizes the Kantian ideal: He is in deep ratiocination, absolutely fixated on something not discernible to the naked eye; he is alone—no teachers or colleagues are present; he is physically immobile—no pacing, no experimenting; he is *sans* social resources (no pen, no paper, no journals, no computer, no Google)—*sans* even clothing. Why on earth should education try to foster this?

A contrasting conception was put forward in the early decades of the 20th century by the Russian developmental psychologist Lev Vygotsky; the key idea in this context was his well-known "zone of proximal development" (see the discussion in Phillips & Soltis, 2009, chap. 6). Vygotsky depicted the developing youngster—learning to think and reason adequately—as being surrounded by, and as being given educational assistance by, peers, parents, teachers, members of society at large, newspapers, magazines, textbooks, and other cultural artifacts. In other words, for Vygotsky, the development of rationality takes place in a *social context* or a zone. Indeed, from this social perspective, he criticized Jean Piaget for his tendency to conceive of the learner who was undergoing development (i.e., development of his or her cognitive "logical structures") as a kind of solitary young scientist—or, as one might say, as a young version of Rodin's "The Thinker." One can even go further—Piaget thought of his developing youngsters as being rather like insect or mollusk lava, that pass through preordained stages without input or guidance from the adults of their species (it is not a coincidence here that Piaget received his doctorate not for a study of children but for a study of the mollusks of Valais).

The remainder of this entry will delve further into some of the difficult and vexing issues that have been sketched above, and some of their educational implications shall also be outlined.

How Is Rationality Characterized?

Three of the most prominent accounts of rationality in the literature of the past few decades can be summarized as (a) the logical reasoning account, (b) the metacognitive perspective account, and (c) the appropriately moved by reasons account. There may be some overlap between these, and they all have clear educational implications.

The Logical Reasoning Account

The logical reasoning account treats rationality as the capacity to engage in valid logical reasoning—the ability to draw logically warranted conclusions from premises presented in arguments, to avoid drawing fallacious inferences, and the like. As the philosopher Gilbert Ryle (1962/1972) put it in his essay "A Rational Animal," "It is, I think, sometimes assumed that there is just one type of intellectual fault against which the thinker must have been trained and must now be wary, namely breach of the rules of logic" (p. 190). The restricted nature of this view of rationality needs to be stressed; a logically valid conclusion is one that follows from the premises of the argument according to the laws of logic, regardless of whether or not these premises are true.

This "logical reasoning" account readily morphs into the view that, as Harvey Siegel (2003) has expressed it, a fundamental aim of education is to foster the student's "ability to reason well" (p. 306), which in turn often becomes operationalized as the teaching (in some form or another) of critical thinking or argument analysis (p. 307; see also Feldman, 2009).

But, as Ryle and others have pointed out, there must be more to the story than this. To "reason well" will be construed by many as the ability to reach reliable or true conclusions, not merely ones that follow from the premises of a logically valid argument. And there are two requirements here: First (as noted above), the chain of reasoning certainly must be a valid one—the conclusion must logically follow from the premises; but second (and not nearly noted so often), the premises that appear in the valid chain of reasoning must be true, or at least reasonable ones if where the truth lies is not certain. To use an example that has sometimes served as a research tool, the following argument is logically valid (although many children up to about the age of 10 will have trouble acknowledging this, as will some adults—who eventually will mostly come around):

Elephants are animals or plants.

Elephants are not animals.

Therefore, elephants are plants.

The conclusion here is valid, for it follows logically from the premises; but one of the premises (the second!) is not true, so the conclusion is not true. So here is the conundrum: If an individual from our own culture accepts this valid argument and its incredible conclusion, would we say that he was irrational, that he was rational but seriously uninformed, or that he was logical but irrational? It is a difficult call to make, but many of us would hold a rational member of our own culture up to a higher standard than merely being able to reason validly (overlooking occasional slips); we would also expect this individual to be able to reject logically valid conclusions that were not true or that were even blatantly silly because at least one of the premises that had been used in the argument was untrue or even silly. In short, we expect a rational

person not only to be able to reason logically but also to be able to guide this reasoning using a background of knowledge.

But a much more difficult situation arises when the thinker whose rationality is being assessed is a member of a foreign or "exotic" culture—one in which there is a different knowledge base or in which a different conceptual apparatus holds sway (perhaps one that refers to concepts or entities about which—to use the words of the Bard—we have not dreamt of in our philosophy, and which cannot be adequately translated into our own terminology). In such a case, it might be difficult or even impossible to determine if the chain of reasoning (which makes no sense at all to us) is indeed logical, let alone rational. This is perhaps why early Western anthropologists "discovered" that members of exotic cultures had "primitive minds"; not being able to make sense of the reasoning patterns, and/or the premises and knowledge base of their indigenous informants, it was not difficult to judge them as having a lower form of mentation than those of us in the Western world. This view was supported by a crude application of evolutionary theory that depicted societies as falling into a linear developmental sequence—one that placed *our* society at the peak of development and *theirs* much lower down the scale. The so-called father of American anthropology in the early 20th century, Franz Boas, strongly opposed this view, and he argued that there was no fundamental difference in the "ways of thinking" of primitive and civilized humans, but he also stressed that all humans see the world through the conceptual lenses provided by their own culture (a variant of the doctrine sometimes labeled as cultural relativism), resulting in lines of thought that may be difficult for outsiders to comprehend.

This discussion should help illuminate the criticism that is sometimes offered to the effect that the concept of rationality as it has commonly been developed in philosophy of education suffers from cultural or gender bias. The stress on constructing logically valid chains of reasoning, and the relative neglect of the need for using true premises (and the role played by cultural background knowledge in identifying what members of a group—any group—regard as established knowledge), loads the "rationality dice" in favor of the dominant group in a society (in the West, usually White males) and puts members of ethnic minority groups at a disadvantage. An even more radical charge has been made by some feminist philosophers, who claimed that they also are victims of bias in the attribution of rationality, for a central form of logical argumentation (the form technically known as *modus ponens*) is a "male patriarchal creation oppressive of women." The well-known philosopher Martha Nussbaum replied to this accusation by showing that *modus ponens* was actually used several times in the arguments that the feminist philosophers mounted against it. (For discussion of this case, in which the to and fro became quite heated, see Phillips, 2000, chap. 11.) Mercifully, the thorny issues raised here cannot be pursued in depth in the context of this limited encyclopedia entry, although they will be revisited briefly later.

The Metacognitive Account

The metacognitive account, favored by some researchers in cognitive development but by others as well, holds that rationality involves not just the ability to make logically valid inferences, and to evaluate them, it also involves the ability to reflect on and control our inferential activities in order to ensure that they serve our larger purposes. Ryle (1962/1972) seemed to be flirting with this view when he wrote that the type of thinking that is involved in rationality "essentially embodies the element of self-correction. . . . The thinker cares, at least a little bit, whether he gets things right or wrong" (p. 192). The developmental psychologist David Moshman (2009) is more specific:

> In addition to *awareness* and *evaluation* of inference, development is marked by increasing *executive control* of our inferences. To an increasing extent, we deliberately apply and coordinate our inferences to serve our purposes. . . . Rationality is thus fundamentally metacognitive in that it entails awareness, evaluation and control of inferential processes. (pp. 148–149)

From this perspective, if educators wish to foster rationality, they should operationalize in the classroom the principle that "metacognitive reflection and coordination" arise from social interactions, especially from interaction with peers (Moshman, 2009, pp. 156–157). Of course, the point made earlier applies here—to serve our purposes; to be useful and productive in real life, valid logical inferences also need to be informed by relevant *knowledge*.

The "Appropriately Moved by Reasons" Account

The "appropriately moved by reasons" account has been developed in detail by Siegel. It is a position

that rests on two fundamental claims: (1) a fundamental aim of education is to foster the ability of students to "reason well" (which involves constructing and evaluating reasons in various domains) and (2) education also needs to foster in students the disposition or inclination to act on the basis of these good reasons (Siegel, 1988, 2003). In the course of developing this position, Siegel acknowledges his debt to one of the founders of modern analytical philosophy of education, Israel Scheffler; the latter is quoted as having written that "rationality . . . is a matter of *reasons*, and to take it as a fundamental educational ideal is to make as pervasive as possible the free and critical quest for reasons, in all realms of study" (Scheffler, quoted in Siegel, 2003, p. 307). Siegel has been an active proponent of the teaching of "critical thinking," which he views in a "broad" way as being normatively focused on the seeking of "good reasons" for acting.

Siegel is reluctant to wholeheartedly acknowledge that the knowledge component of good reasons is in a sense socially or culturally determined, for—quite reasonably—he wishes to avoid lapsing into relativism (see, e.g., his discussion of Feyerabend in Siegel, 2003). However, it does not seem to be relativistic to acknowledge that while what counts as established, warranted knowledge for a remote tribe in New Guinea will not pass muster in our own culture (where we judge it to be "false belief"), nevertheless it counts as knowledge for them, and the tribe members act on it in good faith as it were. While it is likely that *we* have sound reasons to regard their knowledge/beliefs as false—reasons that we might even regard as being objective—the important point is that this does not make *them* irrational for using these items, for probably *they* have good reasons—in their conceptual and epistemological schemes—for accepting them.

Finally, it is important to note Siegel's powerful and effective answer to those who question the value of rationality as an educational ideal. He presents a type of transcendental argument (not unlike the one used by Nussbaum, alluded to earlier): If you argue that rationality is not a worthwhile aim, presumably you are attempting to present a valid argument—which shows that in practice you are committed to giving good reasons and logically valid arguments. In short, in your attempt to dethrone rationality, in fact you are displaying your commitment to it.

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See also Critical Thinking; Epistemology, Multicultural; Kant, Immanuel; Knowledge, Analysis of; Metacognition; Peters, R. S.; Scheffler, Israel; Vygotsky, Lev

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Rawls, John

John Rawls (1921–2002) was one of the most influential philosophers of the 20th century. Within the analytic tradition in political philosophy, he was arguably the most influential. His work has been translated into more than 20 languages and has shaped the debates in normative political philosophy since the 1970s. This entry will focus on two of his books, *A Theory of Justice* (1971) and *Political Liberalism* (1993), presenting the evolution of his philosophical views on social justice and their impact on debates about the role of education in the promotion of justice.

The Theory of Justice as Fairness

Rawls's theory, as first formulated in *A Theory of Justice* (1971), discusses justice as a property of the set of major political, economic, and social

institutions of a society and examines the ways in which these institutions function together to distribute a number of important social goods. These goods, which Rawls calls "social primary goods," include basic rights and liberties, opportunities to access desirable social positions, economic resources, and the social bases of self-respect. This focus on the set of major institutions means that Rawls is not attempting to offer a theory of justice that applies to all the things that can be called just or unjust, such as individual actions, particular laws, or forms of punishment. Rather he is only trying to specify the conditions under which the basic structure of society counts as just.

One strategy that Rawls uses to defend his account of social justice belongs to the contractualist tradition in political philosophy. Rawls designs a thought experiment in which hypothetical bargainers are placed together to select the principles that will guide the functioning of their society. He imagines rational individuals who are deprived of information about themselves such as their sex, age, race, social position, talents, psychological makeup, or views about the good life. In Rawls's technical terms, contractors in this "original position" are behind a "veil of ignorance." Rawls stipulates that such people are motivated to secure social primary goods for themselves and that they will agree to distribute them in accord with two principles: Rawls's famous principles of justice. The fact that the bargainers are behind the veil of ignorance is meant to ensure that they will fairly consider the interests of all members of society—whether or not they belong to the majority religion, have marketable talents, were born into wealth, and so on. According to Rawls, the participants will be concerned with securing certain rights and liberties, because these may prove to be essential for the pursuit of various alternative plans of life. Under the conditions of uncertainty that characterize the original position, Rawls holds that they will agree to distribute economic resources according to a maximin rule. That is, they will try to ensure the best possible situation for the worst-off members of society, because that is who they themselves may turn out to be.

The first principle of justice, also known as the principle of liberty, says that each person is to have an equal set of basic rights and liberties, such as freedom of thought, freedom of association, rights associated with the rule of law, and rights to participate in the democratic process. The second principle of justice contains two subprinciples. It specifies that social and economic inequalities are permissible only when (1) there is equality of opportunity for desirable jobs and positions and (2) any inequalities work for the benefit of everyone, including the least-advantaged members of society. Subprinciple (1) is known as the fair equality of opportunity principle, while subprinciple (2) is known as the difference principle. These principles can be used to guide the design of the constitution and to select laws and policies. They can also be used as critical standards to assess the level of justice of existing societies.

A second method Rawls uses to justify his principles of justice is called the method of reflective equilibrium. Briefly stated, the idea is that to assess high-level abstract principles of justice such as Rawls's two principles, we should consider whether they cohere with particular judgments in which we have confidence: for example, that discrimination on the basis of religion or race is unjust, or that a just society should grant all its adult citizens the right to vote. If the principles do not yield our considered judgments, the method recommends either revising the principles or reconsidering the particular judgments. Ideally, after some iterations of this process, the revisions will lead us to a state of equilibrium between principles and judgments.

In his second book, *Political Liberalism* (1993), Rawls continues to argue for the same principles of justice that he had put forward earlier. What is new is that he tries to show that they can be defended by appealing to shared ideals present in the public culture of democratic societies and do not depend on more controversial moral, religious, or philosophical views that are not likely to be widely shared. One of his concerns is that society contains a number of quite different and reasonable views regarding the good life. Given this "fact of pluralism," he tries to demonstrate that reasonable people with such different views can all agree on the same principles of justice and that this agreement can last over time. So he thinks that he has to show that there can be an overlapping consensus on his two principles, even though people are likely to endorse significantly different conceptions of the good life. Rawls also tries to show that when social institutions are effectively regulated by the principles of justice, each new generation will learn and endorse the principles and political values that support them. In this way, a just regime can be stable over time. This problem of stability over time is related to the question of how the principles of justice can be transmitted from one generation to the next and how they can become

freely endorsed as a result of processes that count in a broad sense as educational.

Rawls and Philosophy of Education

One educational topic that Rawls discusses in *A Theory of Justice* is the moral education of children—first in the family and later in schools and the wider society. Rawls aims to show that if children are raised in the context of reasonably just institutions, they will develop a sense of justice: a set of dispositions to comply with just arrangements. In the background of his argument is a plausible general story about the moral development of children, loosely based on the psychological theories of Jean Piaget and Lawrence Kohlberg. Rawls describes three general stages of moral development: (1) the morality of authority, (2) the morality of association, and (3) the morality of principle. At the first stage, it is feelings of love and trust that motivate compliance with the rules that parents give. At the second stage, feelings of friendship explain compliance with the rules of more complex schemes of cooperation, such as the rules of games and rules learned at school, which children see as working for the benefit of all the participants. The morality of principle is the highest stage, at which the motivation to comply with the rules of just institutions no longer requires the support of feelings of love or friendship toward those with whom we interact.

For Rawls, families are the first school of justice. But actual schools also play an important role in moral education, since they provide a more complex and diverse environment in which rules for fair cooperation with nonfamily members can be learned. In *Political Liberalism*, Rawls briefly describes some guidelines for the moral and civic education of children that should take place at schools. One issue that Rawls must deal with is that there are limitations on what the state can legitimately require schools to teach, given the fact of pluralism. Rawls argues that because the state cannot impose any comprehensive view of the good, the compulsory content of moral and civic education will be comparatively minimal. In particular, he claims that the state should require that children learn their constitutional and civil rights, that they acquire the knowledge and skills to become fully cooperative members of society, and that they develop certain virtues, such as fairness, toleration, and civility. The important point that Rawls wants to stress is that these kinds of requirements can all be justified in political terms. That is, reasons can be offered in their support that avoid appeal to any particular comprehensive doctrine but, instead, rely on widely shared values present in the public culture. In this way, Rawls wants to make a contrast with the recommendations of comprehensive liberal forms of education, which directly aim to promote ideals of personal autonomy or individuality. As examples of liberal theories with commitments to comprehensive ideals, he mentions those of Immanuel Kant and John Stuart Mill.

One common criticism of Rawls's views on civic education, which he himself anticipated, is that the kind of education for which he offers a political justification will have virtually the same consequences as liberal comprehensive forms of education. For example, to teach toleration, it will be necessary to make children aware of the existence of other reasonable ways of living, so that they understand that people who do not follow the doctrines of their parents are not necessarily evil or corrupt. This may encourage students to reflect on the values they were taught at home and possibly to revise or reject them. Rawls admits that in practice the two forms of civic education may end up being difficult to distinguish, but he claims that any reasonable citizen must be willing to accept the risks involved in exposing their children to other reasonable views. Many critics of Rawls argue that his political defense of civic education therefore fails on its own terms. But some authors are persuaded by Rawls's general strategy and stress the need for political arguments in favor of policies as a way of expressing respect for fellow citizens by appealing only to reasons that they could accept as relevant.

Beyond families and schools, Rawls also claims that public institutions have a wide educational role, transmitting core political values and ideals—for example, that citizens should be treated as free and equal. In Rawls's view, when the political and legal institutions embody the principles of justice, the functioning of these institutions will teach people to appreciate those principles. Through acquaintance with these institutions, participation in political debates, or learning about the arguments and decisions of courts, citizens will acquire a better appreciation and understanding of the principles. It is perhaps because Rawls has faith in the educational power of public institutions that he presents the requirements on families and schools as relatively minimal. However, even if we accept Rawls's interpretation of the core values that inform the design of public institutions, we should admit

that these values tend to be imperfectly realized and that the messages they transmit are mixed. It is true that Rawls's argument is predicated on the assumption that social institutions are relatively just. But if one removes his idealizing assumptions and considers real-life circumstances, one could argue that the contribution of schools to the promotion of social justice is more significant and their tasks are more demanding.

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See also Autonomy; Citizenship and Civic Education; Kant, Immanuel; Liberalism; Mill, John Stuart; Moral Development: Lawrence Kohlberg and Carol Gilligan; Piaget, Jean

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Recapitulation, Theory of

The theory of recapitulation asserts that the development of the individual retraces the development of the human race; it is the theory that the stages of psychological development of the individual correspond with the stages of sociological development—in other words, that individuals pass through the same linear stages as those through which cultures have passed. This theory made a pervasive impact on educational theory and curriculum between 1890 and 1920, and traces of the theory can be found decades later. This entry briefly traces the rise and fall of the theory of recapitulation, describes some of the ways in which the theory was applied to curriculum design, and identifies some of its long-term effects.

In a broad sense, the idea that individual development retraces the development of the human race has deep roots in the Western idea of "the great chain of being," going all the way back to Plato and Aristotle. However, in the 19th century, Charles Darwin's theory of evolution inspired many biologists and social scientists to discover an empirical basis for the theory. In 1866, the German biologist Ernst Haeckel espoused the theory (which he called the "biogenetic law") in its most potent form by coining the phrase *ontogeny recapitulates phylogeny*. Haeckel's version of the theory reflected his belief that the development of the human embryo (ontogeny) displayed biological evidence of earlier stages in the evolutionary history of the human species (phylogeny), for example, the brief appearance of embryonic gills during the "fish stage" of development. However, few scholars subscribed to Haeckel's literal and biological interpretation of the theory. Instead, leading scholars in anthropology, history, sociology, psychology, and education believed in the theory in a broader, almost metaphorical sense. Accordingly, virtually every notable social scientist during the late nineteenth and early 20th century (i.e., Herbert Spencer, Lester Frank Ward, etc.) made commonsense references to the correspondence between the psychology of the child and the psychology of adults in the "savage" stage of sociological development.

In education, the theory of recapitulation was most popular in the 1890s. The greatest proponents of the theory of recapitulation were the psychologist G. Stanley Hall and the American followers of the German educator, Johann F. Herbart, known as Herbartians. In the educational literature, scholars also referred to the theory of recapitulation as "genetic psychology," "the historical method," "the culture-epoch theory," or the "theory of correspondence." Advocates for the application of the theory of recapitulation drew on the child study movement, in which children were systematically observed for insight into the development of the adult mind and the development of the human race. Accordingly, the theory of recapitulation provided a conceptual framework for the organization of the elementary curriculum. Some, like the Herbartians, assigned specific content such as the poem "Hiawatha" and the novel *Robinson Crusoe* to young students because they believed that these works, which described the life of hunter-gatherers, corresponded with the "savage" stage of psychological/sociological development in which children were believed to be. Other educators, such as the genetic psychologist

Charles Judd, suggested the study of prehistoric man or Native American groups because he believed that young students had inherited an instinctual interest in these "primitive" groups. John Dewey, at his famous laboratory school at the University of Chicago, had young students trace the processes, rather than the products, of early humans such as making spears and building huts because he believed students learned best when they collectively relived the history of the human race. Overall, early progressive educators accepted that there was some biological basis for the child's interest in "primitive" and "savage" activities and that the curriculum should in some way capitalize on these instincts.

The theory of recapitulation fell out of favor by the 1920s for several reasons. First, the theory was inherently ethnocentric because it pointed to Western culture as the culmination of all of human progress. In particular, the theory of recapitulation depicted non-White cultures as earlier steps toward the West on a linear scale of human development that included the universal stages of savagery, barbarianism, and civilization. The African American scholar W. E. B. Du Bois and the anthropologist Franz Boas presented evidence to the contrary, and they attacked the theory of recapitulation for its ethnocentric and racist implications. Second, the rediscovery of Mendelian genetics in 1900 problematized many of the biological assumptions on which the theory was based. Specifically, Mendelian genetics overturned the doctrine of the transmission of acquired characteristics (known as *neo-Lamarckianism*), which was a major component of the theory. Third, the rise of the behavioral psychology of Edward L. Thorndike and John B. Watson deflected attention away from instinct theory and genetic psychology and refocused the field on the significance of immediate reinforcements in the environment. Finally, the growing prestige of the disciplines of sociology and anthropology provided evidence for the significance of culture on human development. These emerging fields adopted a more interactionist, as opposed to a biologically deterministic, paradigm. As a result, social scientists adopted a more presentist and a less historicist outlook on human development.

Although scholars abandoned the literal application of the theory of recapitulation to education by the 1920s, many of the core ideas remained. For example, the belief in the social deficiency of non-White cultures such as African Americans and Native Americans continued until the 1960s and beyond. In addition, the application of genetic psychology and stage theory to curriculum—most notably the research of Jean Piaget—remained, although these stage theories have largely been stripped of their sociological correspondence. The teaching of Native American culture in the K–3 curriculum and the expanding environments/horizons approach to elementary social studies (i.e., me, my family, my neighborhood, and my state history) can also, to some degree, trace their historical roots to the theory of recapitulation.

Thomas D. Fallace

See also Behaviorism; Dewey, John; Evolution and Educational Psychology; Herbart, Johann F.; Piaget, Jean; Progressive Education and Its Critics; Spencer, Herbert

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Reflective Practice: Donald Schön

Donald Alan Schön (1930–1997), known in the field of education for his ideas about reflective practice, received degrees in philosophy from Yale University (BA, 1951) and Harvard University (MA and PhD, 1955). He taught at the University of California at Los Angeles and the University of Kansas City, and then, he joined the industrial research firm Arthur D. Little, Inc. After serving as the director of the Institute for Applied Technology in the National Bureau of Standards from 1963 to 1966, he cofounded and directed the Organization for Social and Technological Innovation. Schön was also a musician; he learned the clarinet in France at the Conservatoire National Supérieur de Musique et de Danse de Paris and played both the piano and the clarinet in jazz and chamber ensembles. After serving as a visiting

professor at the Massachusetts Institute of Technology for four years, he joined the faculty in 1972.

Schön's (1954) dissertation examined the nature of practical decision making, drawing in part from John Dewey's theory of inquiry. He argued that practical reasoning is inherently an empirical enterprise, one that is based less on principles and more on discovering efficient methods of arriving at a solution to a practical problem. Early on, his work focused primarily on individuals making decisions regarding personal or professional courses of action. From here, he began to develop an epistemology of practice (Schön, 1983, 1987) that drew serious attention to the nature of technical rationality and its influence on understandings of practice.

Drawing on a positivistic view of technical rationality, practice was often viewed as a process of problem solving that ignored context. Schön argued that a problem was not presented to the professional as "a given" rather that the setting and situation (context) mattered. He further argued that the technical rational model could not account for professional competence in divergent situations. He presented case studies in which artistic and/or intuitive processes were apparent as practitioners responded to situations of uncertainty, conflict, instability, or curiosity. Practical knowledge, therefore, consisted of the often tacit knowing inherent in the intelligent actions taken in response to such situations. Professional knowledge is less a set of rule-governed procedures and more dependent on the knowledge in action of professionals that is observable in how they respond to problematic situations. The ways in which Schön described the development of reflection as being embedded in an ability to frame a problem, and to then reframe a problem, led to meaningful applications of his views of reflection being integrated into the teaching of reflection in many professions. His work began to influence many fields such as urban planning, organizational-learning theory, architecture, social work, and education.

Schön's ideas were particularly attractive to those involved in the teacher education profession because, through his conceptualization of reflection, practice could be elevated to a higher plane, creating new ways for teaching to be understood and valued. It resonated well with the empirical studies of teacher thinking and decision making (Richardson, 1990), and as a consequence, his work was a catalyst for those concerned with researching practice to push the boundaries of ways in which it could be studied, presented, and portrayed. Teacher educators used his work as a new way of drawing attention to, and illustrating, the complexity and sophistication of the knowledge of teaching and learning to teach. For many educators, reflection-on and reflection-in practice became a way of thinking about, and researching, their own expertise and knowledge. As a result, researching one's own practice became more acceptable (particularly in relation to scholarly publications) and was one reason why self-study of teacher education practices (S-STEP) emerged as a field of endeavor (see the *International Handbook of Self-Study of Teaching and Teacher Education Practices*, Loughran, Hamilton, LaBoskey, & Russell, 2004).

Schön was also interested in the nature of systemic change, organizational change, and the nature of professional practice within changing environments. In *Beyond the Stable State* (1971), he argued that institutions and systems are inherently conservative, seeking to preserve current values and practices. At the same time, the context and the tools for producing goods and services are always changing due, in part, to technological innovations. Because institutions and systems are learning systems, they attend to changes, but they do not, themselves, change unless there is a shift in values, a new idea becomes prominent and persuasive, or there is a crisis. Change, therefore, is not a rational process. Furthermore, as change occurs, there exists a period of instability within and among interactive systems in which surprises are a certainty and uncertainty is the norm.

He continued explicating the interrelationships among systems, uncertainty, and the nature of practice in his collaborations with Chris Argyris, also a professor at the Massachusetts Institute of Technology. In the preface to *Theory in Practice: Increasing Professional Effectiveness*, Argyris and Schön (1975) credit the impetus for writing the book to an invitation to work with educational administrative trainees. In the field of educational administration, Schön's work has been influential with regard to organizational learning and organizational theory (Argyris & Schön, 1978). Recently, however, Argyris and Schön have been cited in relation to capacity building and learning organizations. Thus, his work seems to have had a direct impact on teacher education and a somewhat indirect impact on the preparation of administrators.

Across the literature on reflection, Schön's work stands out as a highlight that arose 50 years after Dewey's (1933) *How We Think* placed reflection at the forefront of thinking about the sophisticated

nature of practice. Until that point, many scholars were attracted to the notion of reflection, but they did not fundamentally challenge or extend Dewey's work in ways that had as much impact as that of Schön. His focus on reflection created enormous appeal across the professions and ushered in an era of research through which the knowledge that underpins practice became more visible, meaningful, and valued.

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See also Dewey, John; Teaching, Concept and Models of; Theories of Action

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Religious Education and Spirituality

The spiritual lives of children and adults are considered of utmost importance in education in many cultures. Psychiatrist Robert Coles noted in his travels that children throughout the world often expressed concern about matters spiritual. Yet when it comes to public schooling in countries such as the United States, spirituality is seldom discussed in official discourse. Public schools and universities (and many private educational institutions) are expected to focus on what is directly important to the purposes of the secular aspects of life. In mass societies, the religious aspects of education are often left to the family and religious communities, rather than to the common schools, which are required to emphasize those aspects of living that are considered essential to all youth, regardless of sectarian religious preferences; in multicultural societies, emphasis on matters related to religion can be highly divisive.

Nevertheless, the spiritual lives of youth and adults have been the major focus of many educators throughout time. An example is the legacy of educator-philosopher Rudolf Steiner, who designed a school for the workers of the Waldorf Cigarette Company. Waldorf schools have spread to many parts of the world, and in addition, retreats, such as ashrams and monasteries, some founded in ancient times, continue to serve the spiritual needs of devotees of a religious tradition; the spiritual is an important part of cultural transmission in the survival of cultures. John Dewey, who has greatly influenced world thinking about formal schooling and its relationship to democracy, recognized that all human beings have a religious component to experience, but questioned the claims often made about how matters spiritual are specifically linked to the doctrinal truths claimed by particular religious sects or institutions, including the existence of the

supernatural. Matters spiritual were relevant only when they were part of the pragmatic and continuing project of furthering the well-being of mankind, which was possible to sciences based on experience, he thought. His naturalistic secular humanism has met with criticism from many religious leaders.

Spiritual matters are often associated with religious creeds, which vary from one group to another; even within a particular doctrine, there may be sectarian differences. Yet spirituality common to all faiths is based in a mystical sense of a personal relationship to an entity larger than one's self. Because this ontological sense is based in the universe of relations, it is not material and often thus difficult to prove through a science based on substance and matter. One of the best modern statements of the fundamental relational basis of spirituality comes from Martin Buber, whose book *I and Thou* emphasized the fundamental, existential relation that arises from the ontology of being; the awareness of being itself awakens persons to the dialogic relation to other beings that include not only persons, but also other individual organisms.

The awareness of the holistic presence of other beings also extends to the mysterious and "eternal thou," which is defined as "God" in the religions that historically emerged from Judaism—including Islam and Christianity, and in other religious traditions that include Buddhism, Hinduism, Confucianism, Taoism, and the many forms of indigenous religions. Relations are difficult to describe because description tends to favor the tendency to convert relations into things, into what Buber calls the relation of I-It.

The arts, including poetry, music, dance, painting, sculpture, and architecture, seem best suited to express spiritual relations. Zen Buddhists have traditionally emphasized the limitations of words, whereas Buber himself lapsed into poetry to express the spiritual in relations. The ancient Pythagorians perceived the religious aspects in mathematical numbers, which was important to their view of education. The philosopher of education Maxine Greene has advocated the need for teachers and pupils to perceive the world through the aesthetic imagination, a view that has a connection with spirituality.

Contemporary Thought

In more recent times, the idea of relations has become fundamental in the naturalistic, biological science of ecology, and the connections between living organisms that sustain the complexity of life have become a basis for the spiritual that is also found in many indigenous religions that were once considered superstitious. The Norwegian philosopher Arne Naess is considered the founder of "deep ecology"—a spirituality that he believes humans sense in their individual and communal relationship to the larger ecosystem. Naess, like many others in the environmental movement, was influenced by Rachel Carson's *Silent Spring,* which was widely read in the 1960s.

During the last few decades, however, philosophers of education have been somewhat skeptical when discussing spirituality and religious education. There has been no controversy concerning teaching *about* religion and spirituality; after all, religious worship and religious belief are prominent features of human societies and are as worthy of study as are other major human phenomena; and religious and spiritual experience have been fascinating phenomena down through the ages that have engendered a fascinating literature (see, for a classic work, William James, 1902/1960). But philosophers often have been dubious about teaching religions with the aim of achieving *belief,* for this is seen to be in conflict with fundamental aims of education such as the development of critical rationality and the fostering of the autonomy of students—and there are some who regard this type of religious education as being paramount to indoctrination (Alexander & McLaughlin, 2003; Hobson & Edwards, 1999; Moran, 2003).

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Note: This entry is adapted from Kobayashi, V. N. (2009). Spirituality and schooling. In E. Provenzo & A. Provenzo (Eds.), *Encyclopedia of the social and cultural foundations of education* (pp. 750–752). Thousand Oaks, CA: Sage. doi: http://dx.doi.org/10.4135/9781412963992.n351

See also Buber, Martin; Maritain, Jacques; Aquinas and Thomism; Augustine; Autonomy; Indoctrination; James, William.

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Religious Symbols and Clothing

The question of whether individuals should be permitted to wear religious dress and symbols on public school grounds has garnered a great deal of attention from political and educational theorists in recent years. It is a question that raises a host of thorny philosophical issues—about the rights of cultural minorities in free and diverse societies, about the plausibility of state neutrality with regard to different conceptions of the good, about the scope of parents' rights in the educational realm, about children's prospective interest in personal autonomy, about the civic purposes of schooling, and so on.

Whether large or small, or "conspicuous" or discreet, religious symbols and clothing can be found in a variety of settings (public and private) in liberal pluralist societies. Perhaps nowhere, however, has their presence met with greater opposition than in the public schools. Sikh turbans and ceremonial daggers, Jewish skullcaps and stars of David, Muslim robes and headscarves, Christian crosses and purity rings—all of these are examples of ornaments and articles of dress, imbued with religious significance, whose appearance on school grounds has ignited public controversies from Canada, to Turkey, to Australia, to places in between. A number of these controversies have piqued the interest of philosophers, but none more so than the long-simmering dispute over the *hijab* (the traditional Muslim headscarf) in France.

What is now known as *l'affaire du foulard* ("the headscarf affair") began in 1989 in the Paris suburb of Creil when three Muslim adolescent girls were expelled from school for wearing the *hijab*. This initial incident sparked a nationwide debate about the uneasy relationship between cultural and religious diversity and the civic republican tradition in France. Many viewed the decision to expel the students as draconian and oppressive and as a troublesome reminder of the ongoing marginalization of the Muslim community in French society. Others regarded the decision as largely in keeping with the constitutional principle of *laïcité*—which roughly translated means "secularism"—and with the long-standing vision of the school as an indispensible instrument for republican nation building in France. In response to the incident in Creil, France's highest administrative court, the Conseil d'État, ruled that the wearing of religious clothing in public schools is not necessarily inconsistent with the principle of *laïcité* and that students should be allowed to wear such clothing under certain conditions (i.e., as long as it does not constitute an act of intimidation or proselytism; does not jeopardize the health, safety, or freedom of any member of the school community; and does not disrupt the educational process or otherwise disturb order). This ruling left a good deal of room for interpretation by local authorities, and predictably, many more controversies involving the *hijab* have cropped up in the years since. Nationwide, by 2003, upward of 2,000 Muslim girls were said to be coming to school dressed in the *hijab*, where more often than not they were instructed to remove it under threat of expulsion. In December 2003, a commission appointed by President Jacques Chirac recommended that "conspicuous" religious symbols, including Muslim headscarves, Jewish yarmulkes, Sikh turbans, and large Christian crosses, be banned outright in the public schools. (The commission opined that discreet religious symbols—e.g., small pendants in the shape of a cross, Star of David, or Fatima's hands—should be permitted.) Within a few months, France's national legislature had overwhelmingly approved a bill based on the commission's recommendations, which Chirac subsequently signed into law. In spite of worldwide opposition and threats from various terrorist organizations, the ban took effect on September 2, 2004, the first day of the new school year in France.

In the public school setting in any liberal pluralist society, religious symbols may take on a host of very different meanings, which is part of what can make the wearing of such symbols so contentious. The *hijab* is a case in point. For many of those who wear it, the *hijab* has deep personal and religious significance: It is an expression of their self-identity as Muslims, their devotion to Allah, and their commitment to Islamic tradition. In some situations, the *hijab* takes on distinctly political overtones—as when individuals who typically go unveiled in public begin to wear the headscarf to protest policies they regard as unjust (e.g., the French ban on conspicuous religious symbols) and to express solidarity with the Muslim community. For those who believe it has no place in the public school, as the majority of French citizens apparently do, the headscarf may signify an intolerable assertion of difference in an institution whose purpose, among other things, is to promote civic unity and loyalty to the republic. For some in this same camp, it may further represent the rise of a dangerous Islamist ideology that is deeply illiberal and antidemocratic. To make matters more complex, parties on both sides of the debate in France suggest that the headscarf sends particular, albeit very different, messages about the status of women in the Muslim community. Some proponents of the ban on conspicuous religious symbols view the *hijab* as an unmistakable signifier of female subjugation. Its very purpose, they suggest, is to keep women and girls hidden and submissive. Some opponents, on the other hand, regard the *hijab* as an emblem of female empowerment. From their standpoint, it serves to protect women's modesty, protest their sexual objectification, and indeed liberate them from the crass consumerism endemic to Western societies. What seems clear from all of this is that in the public school setting, religious symbols like the *hijab* are laden with ambiguity: What they actually symbolize very much depends on whose perspective is taken.

In accordance with their different theoretical orientations, philosophers are liable to bring different perspectives to bear on the question of whether students should be allowed to wear religious clothing and symbols in public schools. Proponents of group rights, for instance, will be more inclined than others to err on the side of leniency. From their standpoint, given the importance of promoting inclusivity and extending recognition and respect to cultural and religious minorities, policymakers and school officials will have good reason to condone visible markers of religious devotion and communal attachment in the public school setting. Many liberals, however, will view the protection of individual rights, not group rights, as the paramount concern in debates such as this one. With this in mind, they may feel compelled to give serious consideration to a range of factors—such as the degree to which children are pressured or coerced into wearing religious attire and the messages the attire communicates about gender equality and women's rights—before taking a particular policy position.

Other philosophers may be disposed to favor a more permissive policy on the wearing of religious symbols in public schools out of respect for the interests of parents in raising their children in accordance with their own values, beliefs, and cultural commitments. Yet many liberal theorists of education will take issue with this line of thought. Parental interests, they will insist, must be considered alongside of others—including the independent, autonomy-related interests of children and the civic interests of the democratic state—before arriving at any decision on this exceptionally thorny matter.

Whether a permissive policy adequately respects children's prospective interest in personal autonomy is very much open to debate. On the one hand, allowing young children from religious families to wear religious attire in the public schools might help fulfill those children's need for cultural coherence, which as a number of theorists acknowledge, is a prerequisite for the development and exercise of autonomous agency. On the other hand, allowing older children from religious families to do the same might be thought to contravene their prospective interest in personal autonomy, especially insofar as it undermines the effort to provide them with an educational experience that is discontinuous with their home experience. Of course, to add yet another wrinkle to an already intricate conundrum, a permissive policy may well serve to promote the autonomy of older children from secular families. When they encounter other students who are dressed in religious attire in the hallway, classroom, or cafeteria, it surely enhances the discontinuity between their home lives and their lives at school.

Which policy approach with regard to religious clothing and symbols best satisfies the civic aims of public schooling in a liberal democratic society? Some will insist (as many government authorities and school officials in France do) that prohibiting religious attire on public school grounds promotes civic unity—that it helps keep future citizens focused on what unites them as conationals rather than on

what differentiates them as members of different sociocultural communities. Yet there are grounds for rejecting this assertion. Prohibition will be viewed (perhaps justifiably) as discriminatory and oppressive by many and will contribute to their sense of alienation from and resentment toward the state. It may lead many religious parents to withdraw their children from the public schools, which is liable to be detrimental to the prospective autonomy of those students who have been withdrawn as well as those students who remain in the suddenly less diverse public school setting. Furthermore, banning religious dress in the public school would seem to deprive the entire school community of some very concrete examples of cultural and religious diversity—an understanding and appreciation of which is essential for the exercise of empathic and responsible citizenship in a liberal pluralist society.

Perhaps the conclusion to be drawn here is that the adoption of a blanket policy on the wearing of religious clothing and symbols in public schools is unwise. Across-the-board toleration may not be sensitive enough to the pressure and coercion that some children endure from those who insist they should wear such clothing. Blanket prohibition, on the other hand, seems likely to impose unequal burdens on already marginalized groups. Both policies, when implemented indiscriminately, run the additional risks of contravening the autonomy-related interests of children as well as the civic interests of the democratic state. Perhaps, then, addressing this issue on a case-by-case basis, after taking proper account of local circumstances and contingencies, is the better approach.

Josh Corngold

See also Autonomy; Citizenship and Civic Education; Diversity; Identity and Identity Politics; Liberalism; Multicultural Citizenship; Multiculturalism; Religious Education and Spirituality; Rights: Children, Parents, and Community; Toleration

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Reproduction Theories

In his masterpiece *Democracy and Education* (1916), John Dewey pointed out that due to the ineluctable facts of the death of its members and the birth of their replacements, all societies face the need to reproduce their cultures, structures, and institutions, and education is the main process by which this is accomplished. More recent scholars across many of the modern social sciences have been interested in the processes and forces by which societies reproduce what can be regarded as their positive features, but they have displayed special interest in the ways in which their economic inequalities and differences in political power and status are preserved and reproduced over the generations. It has appeared obvious to many—following in Dewey's footsteps—that education plays an important role in the generational persistence of inequality.

This entry first looks at functionalist explanations of how the educational system serves as a mechanism of social reproduction and at the critique expressed in conflict theories such as that of Karl Marx, who saw class conflict as the basic root of inequities in many social institutions including education. Turning to the evolution of reproduction theories in the 20th century, the entry examines their shared concern with the generational persistence of unequal educational opportunities, a concern that is discussed in terms of the characteristics of economic structures; the relations of domination based on class, race, and gender; and symbolic struggles related to culture, power, and ideology, especially in capitalistic societies.

The entry also focuses on the following themes: (a) the proliferation of competing forms of educational reproduction theory in the 1970s and 1980s, (b) the subsequent rethinking of reproduction theories in response to cultural and political shifts, and (c) the more recent revival of Pierre Bourdieu's non-Marxist, reflexive sociology and theory of cultural and educational reproduction.

Functionalist Theory

Functionalist or "consensus" sociological theory (from Émile Durkheim to Talcott Parsons's social system theory) was based on an organic analogy that viewed education as serving the functional

imperative of social order and, in general, the interests of society as a whole. According to functionalism, societies are like living organisms that need to sustain and reproduce themselves, and their structures and systems that fulfill vital functions are interrelated, like the organs in a living animal. As alluded to earlier, the educational system had the function of ensuring that members of a society had the knowledge and skills necessary to maintain and reproduce its social and economic institutions.

From this liberal perspective, educational expansion was part of a process of democratization that resulted in social mobility. In contrast, conflict theories that emerged as part of the revival of Marxist and neo-Weberian conflict sociologies in the late 1960s sought to reveal the broken promises of liberal reform.

Social Reproduction and Marxist Thought

Marx introduced the topic of *social reproduction* in passing to refer to the noneconomic preconditions of economic reproduction, starting with the social reproduction of labor power itself in institutions such as the family and education in a society's superstructure. The term *reproduction theory* is most closely associated with approaches—initially of neo-Marxist inspiration—that viewed education as part of a cultural superstructure that functioned to reproduce and maintain social structures and patterns of relations between classes in the interest of the dominant capitalist class.

The full implications of the neo-Marxist approach were not explored in depth until two independent theoretical innovations in the 1930s, though their reception was delayed until the late 1960s, largely because of World War II and its aftermath.

Antonio Gramsci

The Italian Marxist theorist Antonio Gramsci (1891–1937) developed a theory of cultural reproduction based on the concepts of hegemony and counter-hegemonic resistance. He viewed hegemony as a form of control in which intellectual and moral leadership made domination seem "natural" to the dominated. Cultural hegemony refers to an entire system of beliefs and values that was accepted, or consented to, by the working class even though it was an ideology that did not serve their interests but rather supported the power of the ruling class. Thus, capitalist social reproduction in civil society was based not only on coercion but also on consent.

Gramsci rejected the economic determinism of orthodox Marxism, arguing that even though class was a major factor in socialization, individuals had some choice in how they interacted with the educational system. He emphasized the role of human agency and creative human action in historical development and viewed culture as the mediator between structural inequality and individual agency. Gramsci believed that for the working class to challenge the hegemony of the capitalists, they would need to organize ideological alliances with other societal groups supportive of the interests of the working class—a counter-hegemony.

The Frankfurt School

Orthodox Marxist determinism was also rejected by the Frankfurt school, a group of "critical theorists" who initially worked within the framework of the Frankfurt Institute for Social Research after Max Horkheimer became its director in 1930. More pessimistic than Gramsci, early Frankfurt school critical theorists proposed a theory of culture industries whereby capitalism produced forms of popular culture that functioned to pacify the masses and encouraged them to adjust to the "humiliating conditions" of their lives. Led by Theodor Adorno and Herbert Marcuse, they argued that in the 20th century the mass media had become a new source of ideological reproduction that was reinforced by a positivist educational culture that reduced all research and knowledge to the model of the quantitative methodology of the natural sciences. As Marcuse famously suggested, the result was a "one-dimensional" society in which critique was no longer possible.

Theories of Reproduction in Education, 1970s to 1980s

The canonical texts that founded reproduction theory in education appeared in rapid succession from 1970 to 1977, a confusing process that was influentially clarified by a critical differentiation of three types by Henry Giroux in a journal article in 1983: (1) economic reproduction theories, (2) cultural reproduction theories, and (3) emergent state-hegemonic theories of resistance.

Economic Reproduction Theories

Louis Althusser

The French neo-Marxist philosopher Louis Althusser (1918–1990) proposed the first version

of economic reproductive theory that claimed to overcome economic determinism by recognizing the relative autonomy of the ideological superstructures, contrasting the "repressive state apparatus" that exerts physical control over individuals with the "ideological state apparatus" composed of institutions such as religion, education, and law. Since the economic sphere was still determinant "in the last instance," however, Althusser's ahistorical structuralist methodology was widely criticized for an explanatory functionalism that could neither account for the agency necessary for his theory of revolution nor provide guidance for empirical research. Though giving culture more autonomy than traditional Marxism, structuralist interpretations denied agency because social actors were viewed as ultimately mere puppets of controlling coercive and ideological structures. As an abstract, speculative theory based on new "Marxist" conceptions of science, structuralism did not encourage empirical and historical comparison of how particular societies actually organize reproduction processes.

Samuel Bowles and Herbert Gintis

Independently, the American economists Samuel Bowles and Herbert Gintis developed a more influential version of economic reproduction theory in *Schooling in Capitalist America* (1977). Drawing on a more traditional Marxist base-superstructure model, their empirical analysis of American education was based on a "correspondence principle" suggesting formal relations of interdependence between the economy and the classroom "hidden curriculum" that inculcated the docility and discipline appropriate for working-class jobs. "The division of labor in education," they wrote, "as well as its structure of authority and reward, mirror those of the economy" (Au & Apple, 2009, p. 84). Though Bowles and Gintis were also criticized for a mechanistic economic determinism, they later clarified their position by emphasizing contradictions and radical democracy. In periods of crisis, the functional correspondence between education and work could weaken (e.g., as evident in unemployment, the lack of jobs appropriate for given educational qualifications, or increased awareness of racial and gender discrimination). Revealing such contradictions in turn potentially contributes to large-scale democratic mobilization to contest the role of education and other institutions in the reproduction of inequality.

Cultural Reproduction Theories

Pierre Bourdieu

The origin of cultural reproduction theories is associated primarily with the French sociologist Pierre Bourdieu (1930–2002), especially his *Reproduction in Education, Society and Culture* (1970/1977) coauthored with Jean-Claude Passeron. Opposing Althusser's structuralist Marxism, Bourdieu analyzed educational reproduction in terms of the contingent strategies of diverse class agents rather than conceiving of it as an automatic, even if relatively autonomous, functional outcome of production relations. Moreover, a Marxist binary class model was replaced, following the classical German sociologist Max Weber, by a relational and multidimensional one in which status competition was central. Whereas Marx's analysis focused almost exclusively on the conflict between the owners of capital and the relatively unskilled labor power of manual workers, Weber pointed out the significance of other, emerging class positions, especially the middle classes who, as owners of educational credentials and cultural capital, could use their professional status to justify work autonomy and higher salaries.

Among the central concepts in Bourdieu's theory of cultural reproduction were habitus, cultural capital, fields, the cultural arbitrary, and symbolic violence. The habitus, formed in the family household within the context of a system of class relations, is the enduring, internalized, and embodied disposition of agents and the source of the cultural capital that increases the probability of success within the field of education. Schools in turn exert symbolic violence by imposing a "cultural arbitrary" in the sense that the content of much of the curriculum reflected the imposition of the cultural tastes and ideology of dominant groups rather than having any relation to either the skills required by the economy or the cultural interests of subordinated classes. The classifications of the cultural arbitrary cause agents to "misrecognize" that apparently legitimate culture is actually part of a dominant culture that contributes to the social reproduction of the class system. Also associated with cultural reproduction theory is the British sociologist Basil Bernstein's (1924–2000) sociolinguistic analysis of restricted and elaborated codes, which, though initially developed independently, provided a theory of transmission that complemented Bourdieu's approach. Influenced by Bourdieu, the neo-Weberian conflict theorist Randall Collins developed in his *The Credential Society*

(1979) a powerful analysis of educational expansion as part of a process of credential inflation that had more to do with status group competition for jobs than with technical skill. The reception of Bourdieu's approach in education from the 1970s into the 1990s, however, was limited, focusing on cultural capital as a predictor of educational outcomes and largely without reference to his subsequent publications. Furthermore, Bourdieu's cultural reproduction theory also became the target of emerging theories of resistance that criticized the structuralism of both economic and cultural reproduction theories and their failure to provide an adequate understanding of agency and resistance.

State-Hegemonic Reproduction Theories

State-hegemonic reproductive theories strongly influenced by Gramsci emerged in the wake of the publication in England of Paul Willis's ethnographic study, *Learning to Labor: How Working Class Kids Get Working Class Jobs* (1977). The book became widely acknowledged as a turning point in reproduction theory—and an implicit refutation of Bourdieu—because of its ethnographic integration of a structural theory of reproduction with a more phenomenological, agent-oriented study of resistance on the part of English working-class male adolescents. Such resistance primarily took the form of negative reactions to schools and the learning of intellectual skills, a self-destructive process that contributed to both the lowering of expectations in working-class schools and a fatalistic sense of being destined for manual working-class jobs. Even though the resistance characteristic of the adolescent males studied by Willis largely served to ensure poor academic performance that led to working-class jobs, his analysis opened the door to more political interpretations. Henry Giroux's *Theory and Resistance in Education* (1983) provided an influential synthesis, incorporating gender and race in a critique of class reductionism that envisioned a critical theory of schooling in the United States based on a utopian "language of possibility" inspired by Paulo Freire's critical pedagogy. Michael Apple, as part of rethinking his earlier economic Marxist, class-based perspective, also converged on a similar position grounded in a theory of counter-hegemonic popular movements and democratic struggles. Critics questioned, however, the hope placed by resistance theories on the potential of education to transform society.

More Recent Debates: Post-1980s

Several historical developments contributed to the subsequent partial waning and rethinking of reproduction theories in education: the further discrediting of Marxism following the collapse of the Soviet bloc; postmodernist critiques of the metanarratives of universalizing theory; the rise of neoliberal ideologies, which became the new polemical target of educational reproduction theories; and the success of neoliberal policies in generally stalemating the advance of the radical democratic and populist visions of transformative resistance. Nevertheless, all of the earlier approaches continued to have adherents and, though originating in research published in French and English, have now influenced educational research traditions worldwide. In the English-speaking world, however, state-hegemonic resistance theories based on the relative equivalence of class, race, and gender (now often interpreted as relations of "intersectionality") have remained the most influential, as evident in the writings of Apple and his diverse collaborators. The continuing development of resistance theories arose from constructively responding to the challenges of postmodernism, as well as incorporating critiques of class reductionism developed in feminist and race theories influenced by critical social theory and poststructuralist theories of identity and difference, including the use of Michel Foucault's theory of power and knowledge to understand aspects of reproductive processes, especially the marginalization of the perspectives and knowledge of subordinated groups. State-hegemonic theories have also responded to globalization by addressing transnational social reproduction in comparative analysis of the varieties of capitalism not only within but also outside the West. Nevertheless, some have continued to defend Marxist economic reproductive approaches and the primacy of the capital relation, rejecting theories that abandoned revolutionary Marxism by conceding too much to postmodernism, multiculturalism, and identity politics. Another significant development has been a remarkable revival of interest in the work of Bourdieu.

Future Directions: Bourdieu's Legacy

A new interdisciplinary reception of Bourdieu emerged in the late 1990s and accelerated in the decade after his death. By 2007, he had become the second most cited academic author in the world, just behind Foucault and somewhat ahead of Jacques Derrida

(Thomson Reuters Web of Knowledge). A central concern has been locating the development of his work in relation to his own sociologically interpreted autobiographical reflections: early years in provincial southwestern France; elite training in philosophy in Paris, followed by a turn to structuralist anthropology and fieldwork in Algeria (recently recognized as the source of a "postcolonial Bourdieu"); a break with structuralism in the late 1960s—evident in a turn to a reflexive sociology based on synthesizing the work of Marx, Weber, and Durkheim—and the formation of a sociological research group in Paris; election to a chair in sociology at the Collège de France in 1981; and a turn to political activism as a public intellectual in the 1990s until his death in 2002.

From this revised perspective, it is now clear that the earlier reliance of educational researchers on the 1970 book on reproduction, *Reproduction in Education, Society and Culture*, contributed to unfortunate misreadings. As Bourdieu himself noted, it was a "work of youth" that still had vestiges of structuralism, limitations that were reinforced by being read independently of the empirical research on which it was based, as well as both his reflexive sociology and the theory of cultural and educational reproduction, the foundations of which appeared in his *Outline of a Theory of Practice* (1972/1977) and his later work, which included two books on French elite higher education: *Homo Academicus* (1984/1988) and *The State Nobility* (1989/1996). Beyond his book on *Distinction* (1979/1984), a widely discussed sociology of artistic taste, later publications also included topics such as the logic of practice, cultural production (especially art and literature), masculine domination, social structures of the economy, the state and power, television, and a sociological autobiography.

Several issues can be singled out in relation to educational reproduction theory. As against his alleged structuralism, Bourdieu's mature sociological position is now often characterized as a form of poststructuralism, or what he called "genetic structuralism" or "constructivist structuralism," that gives primacy to "strategies" over structuralist "rules." Furthermore, the resulting reflexive sociology is grounded in a radical historicist reflexivity and comparative methodology.

With respect to the frequent charge that he overgeneralized the case of French education, many now argue that he provided the reflexive tools necessary for the historicist translation and respecification necessary for comparative research. For example, though earlier efforts to apply the concept of cultural capital drew rather literally on his French high-culture examples from the 1960s (e.g., museum attendance), more recent work has focused on the culturally specific expectations of different educational systems, drawing on both qualitative and quantitative comparative methods. As well, awareness of his later work has opened up a wide range of new educational topics.

Finally, despite earlier criticism that he neglected resistance, Bourdieu's project was based on the assumption that critical sociology contributed to liberation by revealing misrecognition, suggesting greater affinities with state-hegemonic resistance theories than previously realized. Moreover, his turn to a critique of neoliberalism as a public intellectual in the 1990s implied recognition of a changed historical context, even though a posthumous compilation of texts relating to his activist interventions reveals the continuity of his concerns. Nevertheless, more recent discussions have raised questions about the consistency of his conception of practice, especially the tension between the relativism of the cultural arbitrary and his defense of scientific universalization and the autonomous "collective intellectual" in research. The claim that the curriculum—especially in the humanities—is arbitrary and ideological rather than having a universal meaning or economic function has the paradoxical effect of potentially legitimating neoliberal efforts to undermine university autonomy by reorienting higher education and research to focus primarily on the supposed needs of the economy. Particular attention has also been given to extending and revising his approach by clarifying the conditions under which habituses change—as in the case of Bourdieu's own tormented "cleft habitus" as an ambivalent provincial outsider in Paris—and the implications for theories of social movements and the public sphere.

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See also Apple, Michael; Capital: Cultural, Symbolic, and Social; Code Theory: Basil Bernstein; Critical Theory; Equality of Educational Opportunity; Freire, Paulo: *Pedagogy of the Oppressed* and Critical Pedagogy; Hidden Curriculum; Marx, Karl; Social Class

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Rhetorical Canons

The Roman educational system emphasized five canons of rhetoric: (1) invention (*inventio*), (2) arrangement (*dispositio*), (3) style (*elocutio*), (4) memory (*memoria*), and (5) delivery (*pronuntiatio*). Together, these five elements of effective communication provide a guide for developing, as well as analyzing, rhetorical arguments. While devised for oratory, the canons were seen as applicable to any type of rhetoric, whether verbal or written, and they have remained influential in education since their inception more than 2,000 years ago. Even in the modern technological world, far removed from the ancient Roman society and its emphasis on oratory as the primary means of communication, the canons are often used as a way of teaching rhetoric, whether in verbal, written, or multimedia formats.

Rhetorica ad Herennium

It is unknown today precisely how the rhetorical canons were developed and by whom. However, it is clear that by the time that Cicero (106–43 BCE) was a student of rhetoric, the Roman system of rhetorical education was established, and the rhetorical canons were firmly recognized as an important part of the pedagogical tradition. The most complete treatise on the rhetorical canons that survived antiquity is the text of the *Rhetorica ad Herennium*, composed around 90 BCE. The document provides in-depth explanations of the five canons.

The author of the *Rhetorica ad Herennium* is unknown. Because the section on invention so closely resembles Cicero's *On Invention*, which was written when the statesman was a young man, it was believed for more than 1,000 years that Cicero was the author of *Rhetorica ad Herennium.* Today, scholars believe that the similarities simply exist because Cicero and the unknown author were likely contemporaries. They may not have known each other, but they would have both been students within the same system of rhetorical education.

The *Rhetorica ad Herennium* was not a novel or groundbreaking text at the time it was produced. It provided a summary of what was essentially common practice in Roman education. However, from a modern standpoint, because it provides the most complete picture of the rhetorical canons from ancient Roman education, it is one of the most important educational documents to survive from antiquity.

The Canons

The five rhetorical canons can be separated for the sake of study, but they were meant to be used together for an orator to develop an effective rhetorical act. Each canon influences the others, and without giving consideration to all, the rest would be ineffective. Invention (*inventio*) references devising the subject of a speech and what one will say about it. Arrangement (*dispositio*) is the organization of one's thoughts, giving careful consideration to the order in which an argument is made. Style (*elocutio*)

asks orators to consider their words and sentences and whether to speak in a plain, persuasive, or grandiose manner. Memory (*memoria*) can be seen as memorization, as speakers must commit to memory not only the subject matter of their speech but also their intended arrangement and style. Memory refers to more than rote memorization, however, as orators were expected to be able to speak extemporaneously on a variety of subjects. Finally, delivery (*pronuntiatio*) asked rhetors to consider their tone, inflection, and gestures.

Each canon was viewed as important to a communicative act. If an orator's speech was stylistically composed and beautifully delivered, it would still be ineffective if the speech was disorganized and difficult to follow. Likewise, a well-organized speech would be futile if delivered in a stilted monotone with no consideration of style and delivery. If an articulate and moving speaker did not know enough about the subject of his speech, lacking *memoria*, then the speech would seem empty and ineffectual.

While the *Rhetorica ad Herennium* presents the canons in a systematized and highly technical way, the canons have continued to be influential because of their adaptability. The concepts of invention, arrangement, style, memory, and delivery have been applied to writing for centuries and, more recently, to multimedia compositions. For example, invention applies to prewriting strategies one can undertake when composing an argument, as well as using writing as a means of discovery. Arrangement remains important, regardless of whether someone is giving a speech, writing an essay, or creating any number of multimedia projects, from designing a webpage to filming and editing a video. Style in writing can be considered in a similar way to how the Romans saw it, focusing on issues of language such as syntax and word choice, but it can also be viewed much more broadly, such as the consideration of design elements in multimedia documents. From a modern perspective, the delivery of a speech need not involve a consideration of enunciation and gesture. Instead, delivery can relate more to choosing the appropriate medium for creating one's communicative act and making rhetorical choices that will lead to the most effective delivery of an argument to an intended audience. Memory, from a modern perspective, does not simply address memorization but deals with metacognition and the interrelatedness of thinking and writing (or composing in multimedia). The canons were devised in a society that emphasized oratory, but their emphasis on rhetoric—and not just spoken rhetoric—has made them influential throughout history, even in today's technologically advanced society that the ancient Romans would not have been able to conceive of.

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See also Aristotle; Augustine; Cicero; Plato; Quintilian; Socrates and Socratic Dialogue

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Right to an Education

The right to an education is widely assumed and asserted, but often without specificity as to its nature, limits, grounds, and implications. What is a right to an education and what kind of right is it? On what basis can a right to education be legitimately asserted? Who has a right to an education and against whom may it be legitimately asserted? What is the content of this right as regards the kind, quality, and extent of education that may be legitimately claimed? Can this content be specified in absolute terms or only in the context of what others in the same society or wider human community receive? Does the content of the right to an education vary from person to person in accordance with personal characteristics? For example, if a child's native language is different from a society's dominant language and normal language of instruction, does that give rise to a right to bilingual instruction? Do specific physical or cognitive impairments give rise to a right to compensatory educational accommodations? How far does the right to an education extend to encompass other forms of enabling conditions being publicly provided, such as adequate nutrition, transportation, or protection from bodily harm?

Rights protect what a person is owed as a matter of justice. Is a child's right to education *inalienable*, or can it be *forfeited* through willful lack of cooperation in learning? Can its fulfillment by those who have a duty to provide education be *waived*, in whole or in part, by the child or a representative of the child? If a child has a right to a good general education that includes instruction in the sciences, and evolutionary biology in particular, does a parent acting on the child's behalf have the moral or legal power to waive the child's right to that education on religious grounds, vacating the public's duty to provide it? Can a child's right to an education ever be in conflict with another's right, and if so, which right has more weight?

Even when the right to an education is affirmed in authoritative public documents, such as the 1948 Universal Declaration of Human Rights and the 1989 Convention on the Rights of the Child, there may be neither uniformity of implementation nor philosophical closure on the parameters and justification of those rights. Article 26 of the Universal Declaration affirms a universal right to free and compulsory elementary education, yet more than 100 million of the world's children lack access to elementary schooling and 1 billion adults are illiterate, with girls and women constituting about two thirds of these totals. Educational theorists and philosophers widely endorse the existence of a right to a good education at public expense, but they ground the affirmation of this right in different rationales and disagree on many aspects of what the right entails.

This entry will focus on the fundamental question of what constitutes a right, what it means to have a right to an education, and the theories that can be used to justify educational rights claims. The forms, functions, and varieties of rights are distinguished to clarify the nature of a universal right to free and compulsory education. The entry then explains the ways in which status, consequentialist, and contractualist theories have been used to justify the right to an education.

What Is a Right to an Education?

Rights are commonly understood in terms of their *form* and *function*. Formally, they consist of some constellation of four elements: (1) *privilege*, (2) *claim*, (3) *power*, and (4) *immunity*. To have a *privilege* to do φ is to have no duty not to do φ. A *claim* asserts another's duty to do something for the benefit of, or demanded by, the right holder: *A* has a claim that *B* do φ, just in case *B* has a duty to *A* to do φ. To have a *power* is to be able to alter some privilege or claim. *A* has an *immunity* when *B* lacks the ability to alter *A*'s privileges and claims. As regards *function*, moral and legal theorists have long disagreed as to whether it is in the nature of rights to protect the interests of rights holders (the interest theory) or to enable exercises of will or control (the will theory), and some have recently suggested hybrids of these functions or that rights have multiple functions.

There are also different kinds of rights: (a) *moral*, (b) *natural* (these being moral rights thought to arise from features of a being's nature), (c) *customary* (entailed by social conventions), (d) *legal*, and (e) *human* (moral rights asserted, or enacted, as international law, primarily to protect persons from abuses of state power).

What kind of a right is the right to education? The universal right to free and compulsory elementary education, affirmed by Article 26 of the Universal Declaration as a human and legal right, would be a constellation of privileges to take advantage of opportunities to learn; claim on others (one's parents, government, and to some extent the international community) to provide what is required for a suitable elementary education; immunity to others altering this privilege and claim and no power to waive, annul, or transfer the right (making it inalienable); and no privilege to not cooperate in learning opportunities others have a duty to provide (making the education compulsory).

Justifying Assertions of Right to an Education

Justifying the attribution or assignment of specific, well-defined rights is a further task for philosophical and jurisprudential argument and theory. The basic approaches divide into status theories that regard rights as entitlements arising from possession of specified attributes, consequentialist theories that justify assignments of rights as instrumentally valuable in promoting a suitable distribution of happiness or well-being, and contractual theories that defend rights as belonging to the fair terms of social cooperation that citizens or their representatives would find rational to agree to in circumstances ensuring impartiality.

In John Locke's (1632–1704) formulation of natural moral law, a child's status as a rational being caused to exist by parents gives the parents a duty to educate the child, and the right to education is

a claim against the parents' correlative to this duty. The education to which the child has a right revolves around the fulfillment of rational potential in independent sound judgment, adult self-sufficiency, and responsible citizenship. From such starting points, many have added that it is legitimate for governments to enforce this parental duty, and that there are public interests in children being educated (responsible citizenship, economic productivity, public health, etc.) that give governments reasons to in some way ensure that all children are educated. Such public interests do not in themselves entail a right to be educated in the ways that serve those interests, nor to be educated at public expense, however.

Immanuel Kant's (1724–1804) moral theory has both status and contractual elements. It holds that persons intuit their status as rational agents as entailing moral duties of respect for other rational agents. Some of these duties are specific ("perfect") in such a way as to give rise to correlative rights in others, while duties of mutual aid in knowing the truth, developing talents, and fulfilling legitimate ends are nonspecific ("imperfect") as to the time, quantity, and beneficiaries of the aid, and for this reason, they do not give rise to correlative rights. These aspects of the theory might lead to a view similar to Locke's, but Kant argues that persons who interact with one another have a moral duty to negotiate fair terms of cooperation that give specificity to their moral duties in a framework of common law. On this basis, it can be argued that there is good sense and efficiency in enacting into law a public system of schools through which everyone's nonspecific moral duties to aid one another in knowing the truth, developing talents, and fulfilling legitimate ends can be made specific and thus correlative to a right of education against the public and its government.

John Rawls's (1921–2002) influential theory of justice is a form of Kantian contractualism, and its basic constitutional principles entail a right to public provision of education suitable to creating fair equality of opportunity in the competition of citizens for desirable positions and offices. Other recent defenses of a right to education that seem to rest in hybrids of status and contractual approaches include Amy Gutmann's argument that rights of civic participation in a democracy entail a right to be publicly provided an education that enables one to participate "effectively," Martha Nussbaum's defense of a human right to be provided with the prerequisites for exercising diverse human capabilities well enough to live a life of "dignity," and arguments that the authority of governments and law rest on acknowledgment of a citizen's right to public provision of autonomy-respecting forms of civic education.

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See also Equality of Educational Opportunity; Kant, Immanuel; Legal Decisions Affecting Education; Locke, John; Rawls, John; Rights: Children, Parents, and Community

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Rights: Children, Parents, and Community

Theorists and advocates frequently use claims about rights to advance the moral and legal entitlements of individuals and groups. Because of the rhetorical force of rights claims—the philosopher Ronald Dworkin called them "political trumps"—they are especially prevalent but also controversial in the education realm. Education rights assert individuals' entitlements to particular resources (e.g., to adequate or equal school funding or to qualified teachers), and they also advance claims about educational governance (i.e., who should decide how children are educated or determine education policy more generally). Given their focus on distributive justice and educational authority, rights claims can bring three key groups of educational stakeholders into tension: (1) children, (2) parents, and (3) the state. This entry

first provides a brief overview of rights theory. It then describes some of the specific rights claims that may be advanced on behalf of or by children, parents, and the state; how those claims may conflict; and various responses to these conflicts. The entry concludes by pointing to several lingering issues that continue to engage philosophers of education.

Background on Rights Claims

Rights claims have significant moral and political force because of their unyielding nature. This makes them particularly useful in both theoretical arguments and advocacy efforts "on the ground." But the uncompromising character of rights claims is also a liability since it opens rights to challenges about their feasibility and their democratic legitimacy. The advantages and challenges of advancing rights claims can be seen in the different types of rights that proponents may invoke and in objections to them.

Rights theorists often divide rights into three "generations." First-generation rights, also known as negative or liberty rights, prevent the state from intruding into the private sphere of individuals' lives (e.g., freedom of religion). In the education realm, these rights include parents' freedom in the United States to educate their children in private rather than public schools or to homeschool their children. First-generation rights importantly safeguard aspects of parental authority over education from state interventions. But since they guarantee only noninterference, they do not provide a complete picture of the educational opportunities that the state or other parties positively owe children.

Second-generation rights, also known as welfare rights, focus on individuals' positive entitlements to particular social goods and opportunities. Examples in the education realm include the right to a free elementary education enumerated in the Universal Declaration of Human Rights and, in the United States, the right of students with disabilities to a free and appropriate public education. The U.S. Constitution is notably silent on the matter of education, and the U.S. Supreme Court has ruled that there is no constitutional right to education. Despite the uncertain legal status of children's rights in some contexts, advocates and theorists still press children's rights to specific educational resources to highlight the moral importance of their claims. Although all rights, including liberty rights, require resources to realize, welfare rights are typically considered to be more expensive and thus more controversial. Welfare rights are also the subject of heated debates since they are often grounded in ideas about distributive justice, which raise questions about the particular opportunities students are owed.

Finally, third-generation rights are group rights. Some rights are necessarily group rights because they require collective effort to realize and enjoy (e.g., clean air). Other rights are accorded to groups to protect their identity as such. In the education realm, multicultural theorists advocate group rights that recognize and respect the beliefs and practices of minority groups in public schools (e.g., linguistic minorities' right to bilingual education or religious students' right to accommodations in schools to enable the exercise of their beliefs). The political theorist Susan Moller Okin raised an important criticism of multicultural group rights from a feminist perspective: They may harm less powerful group members—like women and children—if they end up protecting patriarchal, sexist norms and practices. This concern has been central in debates about the ban on Muslim headscarves and other conspicuous religious symbols in French public schools.

Several other general criticisms of rights merit brief mention. Critics of rights across all three generations have argued that rights claims lack teeth, especially if they do not assign individuals correlative duties to bring them to fruition. Jeremy Bentham famously called rights "nonsense on stilts," while contemporary critics highlight the chasm between moral and legal rights to point out the utopian character of many rights claims. Nonetheless, many advocates and theorists find rights discourse to be a powerful vocabulary with which to assert the entitlements of vulnerable citizens, like children.

Holders of Educational Rights: Children, Parents, and the State

Historically, children's interests were considered synonymous with their parents' interests and, by extension, those of the state; this view largely precluded the possibility of children having distinct rights to self-determination. At the other end of the spectrum, more contemporary and radical "child liberationists" have argued that children should be free from the paternalistic authority of both parents and the state and should enjoy all the rights that are granted to adults. This stance, by contrast, leaves little if any room for parents' rights or consideration of the state's interest in education. More plausible views of

the moral and political status of children fall between these extremes, as John Locke's theory exemplifies. Locke advanced the notion of parents' role as a fiduciary one, meaning that parents have only temporary authority over their children in recognition of their immature and vulnerable condition. With this authority comes the duty to cultivate children's independence, and once this goal is achieved, parents' fiduciary authority ends.

Locke's view importantly prioritizes the "other-regarding" component of parenthood by privileging children's interests rather than parents' rights *over* children. But determining which educational goals serve children's interests is a subject of intense debate. A related and especially controversial issue is what role parents' own desires for their children—the "self-regarding" component of parenting—should have in child rearing, given that these desires may conflict with children's and the state's interests. These and related tensions among the interests of children, parents, and the state are at the core of debates about educational rights. The following sections briefly describe some of the key interests of these three stakeholders and the possible tensions among them.

Children's Interests

Many liberal educational theorists argue that children are entitled to an education that cultivates autonomy. There is a spectrum of views regarding what such an education requires. On one end of the spectrum, some theorists argue that children are entitled to an "open future" in the most expansive sense, meaning that children should be able to make choices about their life's course from the widest variety and number of options. This view gives little weight to parents' self-regarding interest in child rearing and to the state's interest in educating children, instead privileging the idea that children's choices should be unlimited by others' interests.

On the other end of the spectrum, some theorists argue that children are not owed an open future by their parents or by the state, and that both parties may rightfully limit the options available to children. Theorists who privilege parents' rights argue that honoring children's right to an expansive, open future unduly curtails parents' ability to pass on to their children their religious, cultural, political, or other beliefs—an ability that is central to familial relations and that respects diversity. Relatedly, theorists who are focused on the state's interest in children's education contest the open future ideal on the grounds that it jeopardizes state stability, because children must be taught to be law abiding (and some argue further, patriotic). The state interests, proponents of this view argue, cannot be met if children's political allegiance is a matter of choice among the widest variety and number of options.

A number of theorists view the open future ideal as an unattainable one since the families of children, and the political culture in which they are raised, inevitably shape children's beliefs. Recognition of this reality leads to a modified view of children's right to an education that cultivates autonomy. From this perspective, children are not entitled to the widest or greatest number of choices, but rather, they must have the capacity to reflect critically on, and then independently endorse or reject, their conception of the good. This understanding of education for autonomy prompts ongoing debates (discussed in the final section) about whether it biases children to reject rather than endorse the beliefs with which they were raised and so faces charges of being intolerant of ways of life that do not privilege autonomous choice.

Parents' Interests

As noted above, parents' interests in children's education entail both self-regarding and other-regarding components. Since parents' other-regarding interests are children's interests, this section focuses on the self-regarding aspects of parenting (with the disclaimer that in many cases parents do not see a division here: What they wish for their children is, as they see it, also in their children's best interest). Parents' "expressive interest" in child rearing includes their desire to educate their children in accordance with their vision of the good, be it through religious traditions, political views, or belief in the superiority of particular educational, career, or other life paths. One of the most frequently discussed cases by education philosophers about the scope of parents' rights is *Wisconsin v. Yoder* (1972), in which the U.S. Supreme Court granted Amish parents' request to exempt their children from compulsory education after eighth grade. Theorists have debated at length whether this decision was rightly decided out of deference to parents' expressive interests or whether it wrongly curtails children's autonomy.

Beyond concern about children's autonomy, some theorists argue for certain limits on parents' rights

due to concerns about inequalities among families. Egalitarian theorists highlight the educational advantages wealthy parents can confer on their children—advantages they see as especially troubling given the positional nature of education and the growing market of educational services one can buy (e.g., "elite" preschools, tutors for college entrance exams, etc.). Since the family into which children happen to be born is morally arbitrary, egalitarians argue, it is unjust to condone educational inequalities that follow from families' varying resources. This view raises the difficult question of where to draw the line between morally justified and unjustified parental partiality.

The State's Interests

The state's interest in children's education is focused on cultivating students' civic skills and ability to be productive members of society, which leads to different conceptions of what civic education should entail. Theorists who privilege the state's interest in education argue that the goal of maintaining political stability justifies an education designed to produce patriotic citizens, even if this means teaching students a whitewashed version of history. Critics of this view argue that it wrongly prioritizes the state's interest in having loyal citizens over children's right to an education that develops their autonomy—a capacity that some argue is central to democratic citizenship and the state's legitimacy since individuals need to be able to make discerning, independent choices about public policy.

The *Yoder* decision further illustrates how the state's interest in education may be in tension with children's interests. Critics of *Yoder* point out that the Court's decision to exempt Amish children from compulsory education past eighth grade rests in part on the recognition that the state does not need *all* of its citizens to receive a civic education that prepares them for democratic engagement. Rather, the state just needs a critical mass of citizens to receive this education. The state's interest in education, then, cannot underwrite *all* children's right to education and thus comes up short for children whose parents assert their expressive rights, as was the case in *Yoder.*

Ongoing Debates

Given the controversial nature of educational rights, very few are uncontested. The role of autonomy arguably is the issue that brings parents', children's, and the states' interests and related rights claims into greatest conflict. Of particular note is an ongoing debate about whether the cultivation and exercise of autonomy can be limited to the public sphere. If this is possible, then education for autonomy can enable individuals to exercise critical reasoning skills in their public role as citizens without influencing their conception of the good in the private sphere of their lives. If this division is not possible and autonomy is an all-encompassing capacity, then advocates of education for autonomy have to defend it against the criticism that it is biased against some ways of life and, by extension, may undercut some parents' expressive interest in passing on their beliefs to their children.

Another important issue today is how to think about the role of parents and the state in realizing children's rights in the face of institutional failure. Ian Shapiro argues that the state is responsible for meeting children's basic interests (e.g., fundamental security, nutritional, and educational needs), while parents are responsible for their best interests (the resources and opportunities to realize children's full potential). But as Shapiro highlights, this seemingly clean division of labor becomes especially difficult when public institutions fail to uphold their duties. Parents should act as backstops for the state in this situation, and in doing so, he argues, they should avoid actions that may benefit their own children but worsen conditions for other children. Acting on behalf of all children, however, might work against parents' own children, in which case, Shapiro concedes, it is understandable for parents to privilege their children. This increasingly common situation in education—perhaps best exemplified by some parents' decision to exit failing public schools—presents a significant challenge to the ideal theory about parents', children's, and the state's educational rights and duties.

Anne Newman

See also Autonomy; Childhood, Concept of; Children's Rights; Citizenship and Civic Education; Legal Decisions Affecting Education; Right to an Education

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Rogers, Carl: Freedom to Learn

Carl Rogers (1902–1987) is often cited as being the father of modern client-centered therapy and humanistic psychology. Rogers (1940) stunned the psychological community in the early 1940s when he described the need for client-centered therapy, for from the time of Sigmund Freud, psychotherapy had been the domain of the therapist, cloaked in secrecy, and devoid of systematic research. In his acceptance speech for the Distinguished Professional Contribution Award in 1973 by the American Psychological Association, he reflected on his 46 years of efforts challenging psychologists to open psychotherapy "to public scrutiny and research investigation. I made possible the empirical study of highly subjective phenomena" (as cited in Evans, 1981, p. 123). Rogers found research and openness (transparency) in psychotherapy to be a means of changing the paradigm, opening the doors to other models in addition to his own, and providing opportunities for future generations of psychologists to see clients as persons.

It is perhaps ironic that so much of his writing has become part of the international lexicon in both psychology and education that its roots have become obscured—a few examples are client-centered therapy, student-centered teaching, student-centered learning, helping professions, fully functioning person, person-centered therapy, person-centered learning, empathy, congruence, unconditional positive regard, case studies, and facilitative learning. The fact that Rogers coined or used many of these terms 60 to 70 years ago reflects the impact he had—and continues to have—on these fields. His thought was not static but continued to develop throughout his life; he was concerned that those self-styled "Rogerians" who followed his writings became fixed at a point in time, while his own thinking had evolved and moved in new directions. He once indicated that it was more important to him to find ways to help people than it was to defend or expand the client-centered approach to psychotherapy (Rogers & Russell, 2002, p. xxi). This entry provides an overview of Rogers's work and describes something of its influence on educational theory and practice.

Rogers's Background

Carl Ransom Rogers was trained in the psychological thinking of his time, including the behaviorist theories of John B. Watson, Ivan Pavlov, and B. F. Skinner that became very influential in the 1920s to 1950s. Skinner was a member of the peer group with whom Rogers interacted; later in life, they debated both face-to-face and by way of published exchanges. Rogers was able to transcend these contemporaries, and he challenged their thinking about the nature of control of human behavior, which they saw in terms of conditioning, schedules of reinforcement of responses, and the like—as became evident in his famous debates with Skinner. Rogers saw behaviorism as at best a starting point but clearly not an end point—he moved beyond approaching clients with a preconceived solution for their problems, instead spending time listening and then reflecting back to the clients what he had heard, so that they would become more aware of what they were expressing.

Rogers's first clinical position was in 1928 in Rochester, New York, where he joined the Rochester Society for the Prevention of Cruelty to Children as a

child psychologist; shortly after, he became the director of the Child Study Department. He stayed at the society for 12 years before taking a position in clinical psychology and a full professorship at Ohio State University. His move from a nonfaculty position to a full professorship was an extraordinary progression in academic ranks. His experiences working with delinquent and underprivileged children sent by the courts led to significant understandings about how young people function. Rogers soon realized that he could not solve their problems, as new ones always appeared at the next therapy session. He began looking for ways to facilitate the growth and development of the individual, and he began to understand the importance of the group as a support for troubled youth:

> I think the case conference system that I developed at Rochester was one of the best things I did. It was not uncommon to have five or six agencies represented in the case conference, and I did develop my skill as a discussion leader so that when we got through there usually was a consensus. "All right, the school will do this; the court will do this; the social agency dealing with the family will do that," and they did it. So that sort of blanket approach really was often very effective. I look back on those case conferences and think (at the time it seemed to be the natural way to go about it) how rare it is that treatment plans are really put into effect in that complex kind of way. (Rogers & Russell, 2002, pp. 114–115)

Another interesting facet of his practice as a psychologist was his willingness to learn from his own failures, and he even used some of his "failed cases" as examples in his teaching.

Learning From Experience and Person-Centered Theory in Schools

In "Toward Becoming a Fully Functioning Person," Rogers asks three universal questions that form his philosophy of life: "What is the purpose of my life?" "What am I striving for?" "What do I want to be?" They form the basis of his focus on human learning: that the source of problems and their solutions rest with the individual. In this context, Rogers's experiences and research led him to conclude that

> first, healthy individuals are open to experience: they don't hide from life they explore it. Second, living is a process: openness to experience necessitates an absence of rigidity and allowing the time needed to change. Third, people must trust their own experiences. (Wertheimer, 1945, as cited in Rogers, 1999, p. 47)

The philosophy outlined above underpins the Rogerian approach to schooling—an approach that stands in marked contrast with that based on behaviorist principles. After decades of use in schools, the behaviorist model had not produced significant changes in student behavior. Rather, it limited the ability of the learner to become self-directed and self-disciplined, a necessary condition for the use of more complex instruction in teaching and learning (Freiberg, 1999; Freiberg, Huzinec, & Templeton, 2009; Freiberg & Lapointe, 2006). In contrast, Rogers's (1983) model of being "person-centered" in the classroom encourages teachers to facilitate (rather than direct) learning: "A person-centered way of being in an educational situation is something that one grows into. . . . It is a philosophy, built on a foundation of the democratic way, empowering each individual" (p. 5).

Being person centered in the classroom begins with building freedom for students through trust—providing them with opportunities to learn from one another and allowing them to use shared decision making. Rogers (personal communication with H. J. Freiberg, 1984) explained,

> Granting freedom is not a method, it's a philosophy and unless you really believe that students can be trusted with responsibility, you won't be successful. Now, you can't build that philosophy out of thin air, you have to build it out of experience.

A meta-analysis research review by Cornelius-White (2007), spanning 56 years and encompassing 119 person-centered and student-centered learning studies, found positive cognitive and affective learner outcomes in person-centered environments, including creativity/critical thinking, achievement (mathematics/verbal), student participation, student satisfaction and self-esteem, reduction in dropouts, increased motivation to learn, less disruptive behavior, and fewer absences.

A person-centered classroom is balanced between the needs of the teacher and the learner. Movement from teacher-centered to person-centered classroom is a gradual progression of building trust and developing shared responsibility for the management of the classroom. Consistency Management and Cooperative

Discipline (Freiberg, 1999), a person-centered classroom management model, presents four dimensions that foster person-centered classrooms: (1) social emotional emphasis—teachers demonstrate caring for students' social and emotional needs, and for who they are as people; (2) school connectedness—teachers ensure that students feel a strong sense of belonging to the school, their classroom, and their peers; (3) positive school and classroom climate—students feel safe in school, developing trust for their peers and their teacher; and (4) student self-discipline—students learn through responsible actions and a shared respect and responsibility. This model has shown significant gains in student achievement in elementary and secondary inner-city schools. In addition, the model has shown significant improvements (Opuni, 2006) in school climate and reductions in students' office discipline referrals and in student and teacher attendance.

Conclusion

On January 28, 1987, Rogers was nominated for the Nobel Peace Prize; he died one week later on February 4, 1987, and the nomination arrived just after his death. His influence reaches far beyond his lifetime; he was judged to be the sixth most eminent psychologist of the 20th century, ranking second among clinicians behind Sigmund Freud (Haggbloom et al., 2002).

H. Jerome Freiberg

See also Behaviorism; Freud, Sigmund; Neill, A. S., and Summerhill; Psychoanalytically Oriented Theories of Child Development

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Rousseau, Jean-Jacques

Jean-Jacques Rousseau (1712–1778) is one of the most influential philosophers of education in the Western world. His magisterial study, *Emile, or On Education*, published in 1762, was a literary sensation and provoked controversy immediately after publication. The book was burned in Paris and Geneva, because of Rousseau's teachings against original sin and his downplaying the role of the Church and of scripture in religious education. Rousseau was not the first philosopher who challenged the Christian dogma of sin, but he was the first who conceived of a child without any form of sin. His argument for a natural education is still discussed today.

One of Rousseau's greatest followers was no less a figure than Jean Piaget. But Rousseau's teachings also influenced present-day approaches to free schooling and many projects in alternative education. The question is how much he was—and is—read, and if the references to his work are more than just mere name-dropping.

This entry offers a review of Rousseau's life and work, with particular attention to his provocative ideas on education and the nature of society, and concludes with a discussion of his lasting influence on educational and social thought.

Life and Work

Rousseau was born in 1712, and raised in Geneva, the center of Calvinism. John Calvin, not a native Genevan, published his *Institutes of the Christian Religion* (*Institutio Christinae Religionis*), his central work on education, in 1536; this work contained a discussion of the doctrine of predestination. Rousseau's life and work is, in many ways, a manner of dealing with Calvinism. Following the banning and public burning of his books, Rousseau dispensed with citizenship of the Republic of Geneva in 1763, but not his membership in Calvin's church, which he had renewed in 1754.

Rousseau had attempted to gain control over his biography by writing his *Confessions*, which were published posthumously in 1782, and indeed, this work has determined the image of Rousseau since then. But the facts are as follows: Rousseau's dramatic life was characterized by his rising outside the elite and always being an outsider. The young Rousseau completed an apprenticeship as an engraver; his restless career moved between Geneva and Paris, and after various wanderings and low-level work, he took up a position as a private tutor in Lyon in 1740 and wrote his first text on education (*A Memoire to M. de Mably*; Rousseau, 1969, pp. 1–32). In 1742, he went to Paris and published his *Dissertation on Modern Music* in 1743. Then, in 1749, Rousseau wrote articles on music for Denis Diderot's *Encyclopedia*, and his first major literary success came one year later with *Discourse on the Sciences and the Arts*, which was awarded a prize by the Academy of Dijon. From 1756 on, Rousseau, living now in the Hermitage in Montmorency, concentrated on his three major works: *The New Eloise* (1761), which was a successful novel, widely read in Europe; the *Social Contract* (1762), Rousseau's theory of society; and *Emile, or On Education* (1762). The books on the social contract and on education were banned immediately after publication and were publicly burned in both Paris and Geneva.

After this, Rousseau had to keep moving ahead of the authorities. He was granted asylum by the Prussian governor in Neuchâtel soon after his fleeing Paris, but, at his place of refuge in Môtiers, he was subjected to attacks by varied authors such as his archenemy Voltaire and the general procurator of Geneva, Jean Robert Trochin. At the same time, Rousseau became the idol of the generation of *Sturm und Drang*; young literati from throughout Europe visited Rousseau in Môtiers and made him famous. In January 1766, Rousseau made for England following an invitation by the Scottish philosopher David Hume, but soon their relationship deteriorated. Rousseau returned to France and worked, with increasing paranoia, on his autobiography, which could be viewed as an attempt at self-therapy. His precarious financial situation was relieved in May 1778 when Rousseau and Therèse Levasseur (his mistress of many years, whom he married in 1768), moved to an estate owned by the Marquis de Girardin, who became Rousseau's last benefactor. Rousseau's sudden death on July 2, 1778, ended a very unlikely literary and philosophical career.

Education and Society

The archbishop of Paris, Christophe de Beaumont, justified the banning and burning of Rousseau's *Emile* because of its denial of the doctrine of original sin. In fact, Rousseau (1969) assumed that "there is no original sin in the heart of man" (p. 322). In his defense against Beaumont, printed at the beginning of 1763, Rousseau formulated a far-reaching dualism that has since dominated political and educational conceptions—*nature* versus *society*. The present social order runs counter to human nature in every respect, and this opposition explains the vices of men and the evils of life. The assumption of original sin is superfluous, for man could live without sin if nature and society corresponded and harmonized. In this respect, Rousseau had a post-Augustinian concept of education in mind, which was developed in *Emile*.

Essentially, the theory has three themes:

1. The political difference of *civil man* and *natural man*
2. The assumption of phases of "natural development"
3. The anthropological difference of *love of self* (which does not require the good opinion of others) and *self-love* (which does)

Rousseau's concept of education is constructed using these points. His view is peculiar *not* because it

stresses *natural education*, a term that was established in educational discourse long before Rousseau; the peculiarity arises from the paradoxical attempt to solve the contradiction between nature and society *by way of education*. To this end, Rousseau draws a distinction between two contrary types of education, that given by *nature* and that by *society* (p. 58). These refer to two ways of living—the life of the natural man and the life of the civil man. Both of these are described in a way contrary to Thomas Hobbes—who, in his *Leviathan* (1651/1968), distinguished between the *natural* and the *social* condition. Society, for Hobbes, tames and cultivates nature, thus repression of nature is unavoidable. Rousseau reversed this; for him, the social condition is that of ongoing civil war—the war of all against all—while the natural condition is considered to be presocial peacefulness.

Rousseau justified his fundamental thesis in the second *Discourse*, dated 1765, which was on the evolution of inequality (Rousseau, 1964, pp. 109–194). Rousseau explains *inequality* in terms of society's corruption of human nature. What is called *homme sauvage* (savage man) is considered to exist on the basis of his own strengths, while the *homme civilisé* (civil man) develops social needs that render him dependent and weaken his nature. The division of labor, the development of knowledge, and the connected social differentiation (Rousseau, 1964, pp. 143 ff.) forcefully brought about a progressive inequality among men. The condition of innocence and natural freedom is left behind; in this respect, it is *society* that causes the Fall of Mankind, *not nature*.

The theory of education in *Emile* picks up the evolution thesis and applies it to the development of the child. Rousseau's risky thought experiment goes as follows: If children are seen as the *homme sauvage*, then social factors need to be excluded for the duration of their education. This assumption leads to the basic scenario of *Emile*: The young Emile is exclusively educated by a tutor away from society. The scene is an anonymous countryside estate far from corrupt cities and raw villages—that is, it was cut off from the social condition as Rousseau (1969) viewed it (pp. 264, 267, 279). The place in which the story is told is described simply as "in the middle of fields" (p. 277) without any details regarding the origin and personal history of the two protagonists. Thus, the tale is not a novel of education but a treatise that is intended to describe the paradigm of true education. The name "Emile" is presumably reminiscent of Plutarch (Shanks, 1927); it has no biographical meaning. Accordingly, the tutor is not given a name and is thus not distinguishable. Both are paradigms, not persons.

"Natural education" is *negative* education. Rousseau largely draws on the phases of human development from the *Histoire Naturelle* by Comte de Buffon, and he understands all of childhood as the "age of nature," in which development must take place outside corrupt society. Thus, early education is entirely negative. It does not teach virtue or truth, but it avoids vices and errors to produce innocence of heart. The concept of negative education is aimed at John Locke, whose *Some Thoughts Concerning Education* had been available in French since 1695 and had considerable influence. Locke's central idea, that children are to be treated as rational creatures, aroused a passionate contradiction in Rousseau. For him, reasoning with children was nothing other than the reversal of nature's plan. Development of reason is the aim of education, but the end cannot determine the beginning: "If children could understand reason there would be no need to educate them" (Rousseau, 1969, p. 317). Childhood has its *own* manner of seeing, thinking, and feeling, which is not that of the adult (Rousseau, 1969, p. 319), but Locke's concept of reason is that of adults outside the world of children.

It is this idea, that there is a distinct world of childhood, that has justified Rousseau's (1969) fame in education, along with the metaphor of pure education outside society and the spontaneity of children, who are considered to be led by immediate interests (p. 358). On these grounds, Rousseau seems to be the creator of modern education, which stresses the "new" image of child and childhood. In this respect, the point is often overlooked that *Emile* clearly has a theological center; that the treatise ends by giving preference to the republic, not to nature; and that the whole theory presents *two* concepts of education with differing gender forms. The center of *Emile* is the concept of "natural religion," justified in the "Profession of Faith of a Savoyard Vicar," a treatise within the treatise (pp. 565–635). Rousseau takes the role of the vicar who—against the materialism of the Parisian philosophy—announces a supreme being or an active creator who is assumed to be "King of Earth." Being in unison with creation cannot mean anything sinister: "Where everything is good nothing can be unjust." The good can be seen in creation, justice emanates from the good, and only a just person can live happily, but the

enthusiasm for virtue is an *inner* principle—that of the heart and not of reason. Consequently, the key to the profession of faith is the following: "We can be men without being scholars" (p. 601).

Man is all the happier the fewer the needs he has and the more he can avoid comparisons with others; in contrast, the things that make man suffer ills and evils are *too many* needs and *too many* opinions—in other words, dependency on others. Consequently, Rousseau (1969) develops the concept of "solitary education" (p. 341), which isolates the fictitious Emile throughout his childhood, totally controls learning, and stipulates the didactic scenario on the theory of natural needs. Therefore, Emile does not receive lessons, is not provided with any written works, and is excluded from all forms of cultural education. Only at the age of reason—youth—does he require formal lessons; his entire childhood is directed by nature, which in the novel only occurs in a didactic manner. Indeed, the entire course of Emile's early education actually is extremely artificial; the tutor (and he alone) arranges the entire experience, and it is not by chance that *Robinson Crusoe* is the only literary work that Emile is given to read (pp. 455 ff.).

The concept of solitary education refers to the education of *man*. However, in the beginning of the fifth book, Rousseau introduces "*Sophie, or woman*"—that is, he is forced to react to the difference in sex. The education of "woman" is given an equally generalized treatment as was previously the case with Emile. Rousseau's *homme sauvage* is stated to be male and (therefore) "strong," "sovereign," and "independent," while Sophie, the generalized woman, is educated in a manner so that she can see herself as being in complementary dependence to males. The education of the sexes is therefore not equal, but it is quite dissimilar (Rousseau, 1969, pp. 700 ff.). Because men want to seduce, they are dependent in the crucial moment—women have to agree and can say "Yes" or "No." This female strength can only be developed by binding the woman to the house and forcing her to be virtuous. The "mutual dependency" is therefore not symmetrical: Men are dependent on women because of their desires, women are dependent on men as a result of their wishes *and* needs. Accordingly, "by the law of nature itself women are at the mercy of men" (Rousseau, 1969, p. 702), not vice versa. Needless to say, Rousseau's views on the education of Sophie have provoked a great deal of criticism in our own time.

Rousseau's (1969) treatise about education ends with a grand tour (pp. 826–855) that is intended to introduce Emile to the basics of government theory (i.e., the doctrines of Rousseau's own *Social Contract*), and it is envisaged that a well-educated *man* will become a respectable *citizen*. Emile has to learn what defines the status of citizens and thus the constitution of society. The small *republic* is given preference, one in which there can be an ideal relationship between population and government. Obviously, the Republic of Geneva, idealized by Rousseau during his lifetime, is the model here, but, of course, the ideal Republic is seldom achieved.

Crucially, Rousseau had two views on society: First, there is the ideal of the social contract, a model for social order that is mainly grounded on the concept of *volonté générale*, the general will behind all singular wills (Rousseau, 1964, pp. 361 ff.). The second is the polemical description of general decadence within the existing society. In no place does society comply with the ideal; therefore, the grand tour ends without result. Emile and Sophie, educated differently, are not released into society *as citizens* but led to marriage and family (Rousseau, 1964, p. 867). More is not possible, the ideal society is not realized anywhere. The social ideal has no social place. The decadent society, on the other hand, is morally unacceptable, and the real society has its place but not a legitimate form. Thus, loneliness (solitude) is in the end stronger than sociality (Starobinski, 1971), because education will not change society but can only develop man's nature. The great project of "humanization" through natural education (as stated by Ravier, 1941) fails due to its own ambitions and contradictions. "Nature" in the framework of Rousseau's *Emile* is an artificial entity, where learning is bound by didactic parameters, control is total, and sentiment for the children's *own* world arises from the fiction of a good and equal nature that does not mirror any child's individuality (Oelkers, 2008).

Reception and Enduring Influence

The reception of Rousseau's work over the ages demonstrates the often dramatic and always radical conflict between convinced supporters and equally convinced adversaries. Rousseau divides his readers even today. His interest in the ideals of antiquity, especially those of Sparta and Athens, suggest that there was a *golden age*, which can be understood as an anticipation of the future, the restoration

of the "true society" that once was. It was not by chance, therefore, that Rousseau was the hero of the Jacobins—the cult established during the French Revolution—and was against all conservative theories that negated revolutionary change in favor of the long-term, and thus slower, development of society. Rousseau's *Social Contract* represents the *new* society that conservatives can only deny. The tension between freedom and equality attributed to—and paradoxically and provocatively described by—Rousseau characterizes one major part of political theory up to John Rawls's reformulation of the *Social Contract*. The same applies to the theory of "natural education": Rousseau's *Emile* is a key source for Leo Tolstoy and the reform movements of the 19th century, a central inspiration for Piaget and the development of child psychology, and a milestone for progressive education.

Of central importance are the dualisms in Rousseau. He stresses contradictions and paradoxes between nature and society, men and citizens, children and adults, and, not least, male and female. John Dewey (1985), who rejected and attacked dozens of dualisms, nevertheless recognized Rousseau as the founder of the theory of "natural development" (pp. 211 ff.). The famous ascription "return to nature"—part of 19th-century readings of Rousseau but not stated by him directly—was regarded as an emancipation from alienation, thus a project of the left. But Rousseau was, at the same time, both a radical *and a* conservative: He stated that society should return to the golden age, education should leave schooling for nature, that man should first be a man and then a citizen. It is this that fascinated Rousseau's readers, followers as well as opponents.

Thus, his theory of education is provocatively puzzling: The "negative education" has no positive objective—nature develops along its own course. However, the learning process is subject to extreme regulations. The present should not be made a victim of the future (Rousseau, 1969, p. 309), but every education is a deal with the future, and this is also true for Rousseau. The ages of childhood, and of youth, are clearly defined, and so are the phases of education. Nevertheless, the tutor dominates all education. Nature should lead the way, but everything possible must be done to avoid taking the wrong step. Children stand like savages outside the social law and are completely natural, but education must undertake to *exclude* chance, and thus, children are not able to act *solely* in accord with the necessity of nature. Early education should be that of the *senses* alone, but this requires a rational plan of education that cannot simply be drawn from nature. And, as a consequence, the education depicted by Rousseau is one of extreme regulation: Emile does not play, he does not develop any facilities of his own and is not allowed to listen to music, and his learning differs in every way from "amusement"; his education should be "realistic," but this is possible only in an extremely artificial—nonnatural—manner.

Child-Centered Education

Rousseau wrote the counterproject to the educational theory that dominated the pedagogy of the 18th century. Children, according to Rousseau, should not be viewed as empty vessels or *tabulae rasae* waiting to be filled via education, but instead, they should be seen as parts of nature that develop of their own accord. Education is not merely the establishment of habits and customs; moreover, the child's nature sets limits on all education. This fundamental outlook, however, is weakened by the *implicit* sensualism—the education of the senses—that is necessary, because education is inconceivable *without any* influence. But the provocation remains, and it defines Rousseau's standing as an educational theorist. Education is limited by nature, nature has nothing to do with sin, and the child is innocent because of nature's original goodness; thus, education can take place without any burdens of history and society. There is a renewal of mankind with every new child. This is the basic point of Rousseau's theory, which continues to this day to provoke *and* stimulate educational thought. Rousseau is read because he defines the problems not because he provides the solutions. But "education according to nature" became firmly associated with the name of Rousseau; the term *Rousseauism* was coined, and before World War II, it was commonly understood in the history of education that "new education" started with Rousseau and no one else (Oelkers, 2002, 2008).

Jürgen Oelkers

See also Froebel, Friedrich; Locke, John; Piaget, Jean; Progressive Education and Its Critics; Utopias

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Russell, Bertrand

Along with the likes of Socrates and Plato, Bertrand Russell (1872–1970) is one of the select group of outstanding philosophers who have exerted a major influence on education at all levels. This entry first outlines Russell's many and diverse contributions to education and then discusses issues arising from his technical philosophy.

Russell on Education

Popular Education

Many of Russell's nonphilosophical books, written for a wider audience, made a major contribution to public debate and progressive thinking. In widely read works such as *Principles of Social Reconstruction* (1916); *On Education, Especially in Early Childhood* (1926); *Marriage and Morals* (1929); and *Education and the Social Order* (1932), Russell propounded challenging but influential ideas and proposals on topics as diverse as the importance of sex education, the desirability of a worldwide curriculum, and the differences between education and indoctrination.

Philosophical Education

Whatever philosophers might think of its ultimate worth, Russell's *A History of Western Philosophy* (1946) has undeniably served as the vehicle for inducting countless people into a serious study of philosophy.

School Education

Harboring strong intellectual reservations about contemporary schooling, Russell and his second wife, Dora Black, solved the problem of how to educate their own children by setting up a progressive, experimental school, Beacon Hill School, in 1927. The school emphasized enabling students to find solutions to problems and to identify and question assumptions. According to the school prospectus, morality and reasoning were to arise "from the children's actual experience in a democratic group and never of necessity from the authority or convenience of adults." Though Russell's practical involvement was necessarily somewhat less than Dora's, given his other activities, the school did embody many of his proposals for sound education. The school itself, though relatively short lived,

became an important example in the history of progressive education.

Russell's Philosophy

However, despite these substantial contributions to education in its broadest sense, Russell's own serious work in philosophy cannot be judged to have had any significant impact on either philosophy of education or on educational thought more broadly. The reasons for this can be discerned from a brief outline of the key ideas that characterized Russell's overall approach to philosophy and the various phases within his philosophical development. These phases can be summarized as follows:

> Youthful idealism (up till 1899)
>
> Platonism (1899–1913)—key work: *Principles of Mathematics*
>
> Empiricism (1914–1918)—key works: Our Knowledge of the External World and The Philosophy of Logical Atomism
>
> Modified empiricism (1919 onward)—key works: The Analysis of Matter, Human Knowledge: Its Scope and Limits

The various changes across these phases are marked by a striking continuity centered on Russell's method of analysis. Briefly, Russell invented his own unique method for conducting philosophical analysis, one that was crucial to his abandonment of idealism and was prominent in all of his subsequent philosophical work. Russell's philosophical method is two directional. First, it moves backward from a supposed body of knowledge (the "results") to establish premises for the results; second, it moves forward from these premises to a reconstruction of the body of knowledge that was the starting point. Russell referred to the first stage as "analysis" and the second as "synthesis," but, crucially, both stages were central to how he carried out philosophical analysis. In the early phases, mathematics provided the "results" to which Russell applied his philosophical analysis. (For detailed discussion, see Hager, 1994, 2003.)

Applications of this method of analysis in the Platonist phase included the logicist reduction of numbers and other mathematical entities (the "results") to sets of sets (the "premises"). But in the Platonist phase, Russell was committed to a realm of subsistent being, including, for instance, points and instants. These were treated as real entities known only by description. The move to empiricism was stimulated by Alfred North Whitehead's demonstration that points and instants (the "results") could be logically constructed from sense-data (the "premises"). Thus, Russell's (1914) goal in the empiricist phase became to "exhibit matter wholly in terms of sense-data, and even . . . the sense-data of a single person, since the sense-data of others cannot be known without some element of inference" (p. 12).

This ideal was never achieved, and the logically perfect language in which it was to be carried out was never realized. Instead, Russell came to accept the inescapable need to postulate inferred (or non-experienced) entities. Albert Einstein's work had undermined his empiricist phase attempts to correlate physical space and time with subjective space and time. So Russell adopted a neutral monist position in which the inferred entities are events, of which sense-data are a subclass.

Across all of these phases, Russell's attempts to reconcile mathematics and science with philosophy via his distinctive philosophical method remained a constant. What changed was his understandings of the nature of the "results" supplied by mathematics and science.

Russell's concentration on mathematics and science as the sources of "results" for philosophizing had the effect of limiting the scope of philosophy. He regretfully accepted this consequence:

> There remains, however, a vast field, traditionally included in philosophy, where scientific methods are inadequate. This field includes ultimate questions of value . . . philosophers who make logical analysis the main business of philosophy . . . confess frankly that the human intellect is unable to find conclusive answers to many questions of profound importance to mankind. (Russell, 1946, pp. 788–789)

This point helps explain the minimal impact on philosophy of education of Russell's serious philosophical work. His penchant for science as the source of results for embarking on analysis also explains why behaviorism was the main inspiration for what thinking he did undertake about teaching and learning (evidenced by various unpublished papers held in the Bertrand Russell Archives at McMaster University). If the limited importance of behaviorism for subsequent educational thought

squares with Russell's minimal impact on philosophy of education, a further relevant factor might be his preferred approach to epistemology.

As the phase names *empiricism* and *modified empiricism* suggest, Russell accorded primacy to the experiences of the lone observer of the world. In the empiricist phase, his ideal was to reconcile physics with the sense-data of a single mind. Though his modified empiricism recognized that this ideal was unattainable, the focus shifted to the list of postulates that were needed by the lone mind to reconstruct science. Overall, Russell's evolving epistemology amounts to what John Dewey famously dubbed "a spectator view of knowledge." By contrast, rather than viewing the basic human condition as that of a spectator mind observing an external world, Dewey insisted that it is a matter of "doing and being done by," of holistic mutual interaction. Significantly, later influential theories of learning have gone Dewey's way rather than Russell's. So we are left with the rather odd situation of a major philosopher having very significant influence of education more broadly yet little discernible impact on philosophy of education.

Paul Hager

See also Behaviorism; Progressive Education and Its Critics; Spectator Theory of Knowledge

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S

Sartre, Jean-Paul

Jean-Paul Sartre (1905–1980) was a prominent French philosopher and an extraordinarily versatile and prolific writer. As a philosopher, he is noted for leading the philosophical movement called "existentialism," which dominated European intellectual life in the 1940s and 1950s and exerted a worldwide influence on educational theory and practice in the subsequent two decades. His writings include two massive and systematic works of philosophy; several novels, plays, and screenplays; a book of short stories; an autobiography (covering only his childhood); several biographies of other writers; and scores of essays on art, literature, politics, and current events. In 1964, he won the Nobel Prize for Literature but declined it.

Sartre's works attempt to describe from the "inside," that is, from the standpoint of the individual's subjective experience, the most fundamental features of human existence, including freedom, responsibility, the emotions, work, embodiment, perception, imagination, and the individual's relation to other persons, to complex social collectives, to the cultural world of artifacts and institutions, and to death. Despite the comprehensiveness of this project, his writings do not include a sustained, thoroughgoing discussion on the topic of education. Nonetheless, his philosophical views are richly suggestive of educational implications.

Sartre on Education

Much of Sartre's work is concerned with attacking what he takes to be a widespread tendency of attempting to avoid taking responsibility for one's beliefs and actions by accepting as "true" and "right" doctrines that one has passively received from authorities, such as God, society, or one's parents or teachers. Sartre argues that such a strategy does not relieve anyone of personal responsibility, since the acceptance of someone else's authority is not an *alternative* to personal choice but rather an *example* of it. Those whose beliefs are indefensible cannot legitimately evade responsibility for them by pointing out that they were adopted at second hand. Rather, such persons are answerable precisely for their decision to rely on these particular authorities and, indeed, for adopting this general strategy when they could have chosen differently.

From the standpoint of educational practice, the most important implication of this point is that students should be encouraged to pursue understanding actively rather than to conceive of their education in terms of passively memorizing and accepting unquestionably the ideas of others. Sartre makes the point that just as no one else can die for me, so no one else can *understand* for me. Genuine understanding requires critical and creative *engagement* with ideas. Determining what to believe, in a genuinely responsible way, requires a careful weighing of evidence and arguments, a process that brings the additional benefit of furthering the student's personal growth as an independent person.

Another educational implication of Sartre's philosophy is that education should not be so heavily geared as it currently is toward helping students fit into existing social, political, and economic structures, at the expense of encouraging them to think

about how these structures might be significantly changed for the better.

His thinking on this issue is heavily influenced by his experiences in Nazi-occupied France, where everyone had faced the difficult decision of choosing either to accommodate oneself to the new collaborationist regime or to put oneself at grave risk by fighting it. In response to the objection that our current situation is entirely disanalogous to that of the French resistance fighters of the 1940s, Sartre would insist that the contemporary world is still the scene of many appalling injustices and that the lesser intensity of our situation only *increases* our responsibility—we don't face death as a consequence of our activities in pursuit of a better world.

One of the specific responsibilities of educators, according to Sartre, is to challenge the propaganda that is regularly disseminated by those powerful forces whose primary interest lies in something other than truth. For example, as one of the few significant institutions that is not entirely driven by commercial considerations, education is well positioned to shine a critical light on the overarching message of the commercial media—that the key to happiness and the good life is consumption.

As a champion of "committed writing," Sartre would also argue that educators should encourage students to take a stand on issues and to take action on behalf of their principles. He would oppose the idea that students should be expected to be "neutral" or, even worse, that they should be taught that a centrist, middle-of-the-road position is automatically wisest and best. The identity of the best idea or theory should be determined by evidence and argument, not by an a priori commitment to fitting into some preestablished "mainstream" of opinion.

To facilitate such a quest for wisdom and truth, problems and issues—rather than academic disciplines—should serve as the focus of study. The reason is that real problems are interdisciplinary and cut across the somewhat arbitrary boundaries that divide academic subjects from one another. To deal satisfactorily with the problem of global warming, for example, requires a cross-disciplinary engagement with its scientific, economic, political, and moral aspects, among others.

Above all else, a Sartrean approach to education would stress the great existential issues that each person must confront: What is the meaning and purpose of life? What is important? What should I stand for? How should I live? For Sartre, if these issues are overlooked, in favor of a focus on more technical or career-oriented concerns, no "education" that is worthy of the name can take place.

David Detmer

See also Beauvoir, Simone de; Heidegger, Martin; Phenomenological Pedagogy; Phenomenology

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Scheffler, Israel

Israel Scheffler (1923–2014), a long-standing faculty member at Harvard University, was one of the leading figures in Anglo-American philosophy of education during the second half of the 20th century, but he was also an eminent scholar not only in this domain but also in epistemology, the philosophy of language, and the philosophy of science. The two-way connection between general philosophy and the philosophy of education is characteristic of Scheffler's work. At the heart of his philosophy of education is the ideal of rationality—Schefflerian rationality refers to the critical spirit and quest for reasons as well as to the competence and disposition to evaluate these reasons, and it has both epistemological and moral significance.

Philosophical Context

Scheffler's philosophy of education cannot be understood properly apart from the context of his wider philosophical work. First, his philosophy of education in general reflects his background in analytic philosophy and philosophical pragmatism. Second, Scheffler's notable redefinition of the concept of objectivity and his defense of the ideal of objectivity in epistemology and philosophy of science are

important for adequately interpreting his formulation of rationality as a crucial educational ideal. Third, two particular sources of inspiration must be mentioned in contextualizing Scheffler's work: One is the philosophy of Nelson Goodman, who was the supervisor of Scheffler's PhD and, later, his Harvard colleague and friend; the other is his Jewish background and education.

Scheffler's philosophical approach is rooted in the tradition of analytic philosophy, and especially the philosophical insights—as well as the controversies—of the Vienna Circle, which has exhibited a lasting effect on the focus and style of his philosophy. The idea of dissolving philosophical problems by elucidating the ordinary language in which they are formulated and the idea of applying symbolic logic to problems are legacies from analytic philosophy in Scheffler's work. In addition, the presuppositions of philosophical pragmatism can be seen in Scheffler's epistemology, philosophy of science, and philosophy of education. The commitments to fallibilism in epistemology, on the one hand, and to the analogical role of rationality in science education and moral education, on the other, reflect the key ideas of classical pragmatists such as Charles S. Peirce and John Dewey.

Scheffler's work on symbolism again draws on classical pragmatism by developing the theory of thinking and learning as mediated by symbols. Scheffler's symbolism is also closely related to the work of Goodman. Scheffler's work in this area extends the considerations of the symbol-forming capabilities of the human mind in the realms of education, learning, and religion.

Scheffler's Jewish background provided him with the kind of cultural bilingualism that is a typical feature of many of the great philosophers. Furthermore, in his 1995 book, *Teachers of My Youth*, he describes the similarities of his Jewish education and his philosophical emphasis on the process of "continual interpretation" and "the patient and endless process of human study," contrary to learning through "magic," "visions," "formulas," or "authority" (pp. 185–186).

Scheffler's defense of objectivity was one of his most important contributions in the fields of epistemology and philosophy of science. Scheffler defended the possibility of objectivity from its various criticisms and formulates an interpretation of objectivity that does not depend on the possibilities of certainty or truth but preserves, nevertheless, the possibility of evaluating and comparing rival systems of belief. As Alven Neiman and Harvey Siegel (1993) have demonstrated in their "Objectivity and Rationality in Epistemology and Education: Scheffler's Middle Road," objectivity and rationality are conceptually intertwined intellectual ideals: "Objectivity requires fair assessment on the basis of relevant reasons, evidence, and test; rationality requires that such assessment be objective, i.e., fair, impartial and independent" (p. 61).

Philosophy of Education

The key to Scheffler's philosophy of education lies in his interpretation of the notion of rationality, the development of which he takes as a fundamental educational ideal. In the first place, Schefflerian rationality must be separated from instrumental accounts of rationality, those that understand reason merely as an instrument for assessing the means to achieving ends, whereas the ends themselves are understood as being beyond the limits of reason. In Scheffler's account, the ends also can be rationally evaluated. In the second place, Schefflerian rationality must not be understood as contrasting reason with emotion. Although reason and critical thinking are important means for preserving us from emotional manipulation, emotions also serve a positive function in cooperation with cognition in the processes of achieving new understanding through learning or inquiry. In the third place, the realm of rationality is wider than the realm of science, and the ideal of rationality is applicable, for example, in the realm of ethics. These three observations are crucial in avoiding the erroneous assertion that the focus on developing rationality narrows the scope of education.

In *Reason and Teaching*, Scheffler (1973) states that "the proper scope of education is as large as civilization itself." He strongly opposes any attempts to narrow this scope: "A limitation to the cognitive and the academic, not to say the hard core of science, mathematics, and technology, would, in my view, be a disaster." Thus, according to Scheffler, narrowing the scope of education narrows "our operative conception of civilization" (p. 60).

The educational ideal of rationality has both epistemological and ethical import. Epistemologically, rationality is connected with the best means of achieving proper understanding. Ethically, an educator must be committed to fostering students' abilities in critical thinking, in the search for reasons as well as enabling them to question their own conceptions.

Furthermore, education that fosters rationality is connected with the flourishing of democracy, since democracy needs citizens who are capable of thinking critically and questioning their own conceptions regarding the adequate solutions of shared problems.

Another ethical and societal dimension related to the cultivation of rationality is that it protects people from the manipulative exercise of power by political or religious authorities, and consequently, it protects democratic societies from the threat of totalitarianism. In this sense, the commitment to the ideal of rationality is also the task of philosophers in general. In educational terms, the fostering of rationality differentiates ethically justifiable education from modes of indoctrination. Although Scheffler is critical of some of Dewey's epistemological conceptions, these ideas on the relationships among education, democracy, and reason clearly bear Deweyian echoes.

Another important pragmatist tone in Scheffler's thinking is his work on symbolism. Scheffler develops his theories of learning and creativity by drawing on the idea of the symbol-forming character of the human mind, as developed by classical pragmatists such as Dewey, William James, George Herbert Mead, and Peirce. Scheffler defends the theory of symbolic mediation as important in adequately conceptualizing human nature and potential and, consequently, the processes of education and learning.

Conceptual and argumentative clarity is characteristic of Scheffler's work throughout. Especially at the beginning of his career in the philosophy of education in the 1950s and the 1960s, Scheffler advocated using the methods of analytic philosophy in the philosophy of education as well. *The Language of Education* (Scheffler, 1960) exploits the methodological tools of the philosophy of language by analyzing educational slogans, myths, and metaphors, and *Conditions of Knowledge* (Scheffler, 1965) manifests the idea of the analytic philosophy of education in carefully analyzing the connections between epistemological and educational concepts, such as knowledge and teaching. *Reason and Teaching* (Scheffler, 1973), for its part, represents the broader focus by analyzing the relationships between moral education and science education, philosophy and political activism, and education and democracy. *In Praise of the Cognitive Emotions* (Scheffler, 1991) continues this process of widening the perspective by analyzing, for example, the role of emotions in the process of inquiry. *Of Human Potential* (Scheffler, 1985) takes the philosophical position toward learning by drawing from symbolism developed in the tradition of pragmatism, and *Symbolic Worlds* (Scheffler, 1997) develops the theory of symbolism in various contexts, such as art, language, play, religion, and science.

In the new millenium, Scheffler formulated the epistemological and ontological position he termed *plurealism*—a synthesis aiming to solve the long-standing disagreement between Goodman and Scheffler on the issue of realism by uniting the pluralist conception of the symbol systems by which we describe the world(s) with the realist assumption of the independence of the described from the description. Although plurealism is not, as such, a contribution of philosophy of education, it coheres with Scheffler's educational theorizations and has important educational implications in preserving both the plurality of the systems of description and the possibility of evaluating and improving these systems.

The analytic style of philosophizing as well as the centrality of the ideal of rationality in education have naturally confronted various criticisms over the decades. Rationality as an epistemological and educational ideal has been criticized from political, cultural, and feminist angles, and Scheffler replied to many of these criticisms himself. The analytic tradition, for its part, has been seen as too narrow a focus in relation to wide-ranging educational concerns. Although this criticism was true for analytical philosophy in general, it is not true for Scheffler's work, since his philosophy, although preserving the ideals of conceptual and argumentative clarity, has a broad focus, including themes such as art, morality, and religion.

Scheffler has had an immense impact on the philosophy of education in the English-speaking world, and his works have also been translated into many other languages. The exceptional nature of his philosophy of education lies in the two-way relationship between general philosophy and educational concerns. The methods of analytical philosophy and the insights of philosophical pragmatism are, in Scheffler's work, in dialogue with the ethical and practical questions confronted by education. Scheffler's interpretation of rationality as a crucial educational ideal is an example of a contribution to the philosophy of education that unifies the moral, philosophical, and practical dimensions, all of which are crucial to the comprehensive theorization of education.

Katariina Holma

See also Continental/Analytic Divide in Philosophy of Education; Critical Thinking; Dewey, John; Peters, R. S.; Rationality and Its Cultivation; Scheffler, Israel; Wittgenstein, Ludwig

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Schleiermacher, Friedrich

Friedrich Daniel Ernst Schleiermacher (1768–1834) was not only a prominent philosopher (contributing to hermeneutics, ethics, and the philosophy of language), Protestant theologian, and philologist (e.g., a translator of Plato) but also one of the most original philosophers of education of his time. The magnitude of Schleiermacher's work is comparable with that of his contemporaries Johann Gottlieb Fichte, Friedrich Wilhelm Joseph Schelling, and Georg W. F. Hegel; he is widely regarded as the single most important Protestant theologian of the 19th century. Schleiermacher's philosophy of education, although neglected in English, is indispensable for two reasons: (1) his groundbreaking theoretical insights into education position him (together with J. F. Herbart) as one of the founders of modern educational science (*Erziehungswissenschaft*) and (2) his contributions to the reorganization of the Prussian education system, especially in shaping the new Berlin University (later, the Humboldt University), in some ways exceed those of Wilhelm von Humboldt himself. Highly admired as a preacher and academic, Schleiermacher introduced a type of educational thought and practice that is clearly different from the pedagogy of the often utilitarian and mercantilist Enlightenment pedagogues (Philanthropists), with their sometimes autocratic, and frequently normative and programmatic, emphases. Schleiermacher's approach provides a means of describing and analyzing the prevalent educational practices, rather than of prescribing ways of remaking or redeeming the world through them. Working at the very outset of the fragmentation of the modern age, Schleiermacher presented education as ruled by dialectical tensions between theory and practice, the universal and the particular, society and the individual, and stability and change.

Philosophical Foundations of Educational Theory

To theorize about education is to take part in the all-encompassing process of the dialectical integration of nature and reason through human reflective labor in the world (Schleiermacher, 1996). Accordingly, educational theory is that dimension of reason that reflects on, describes, and analyzes educational practice (Schleiermacher, 1811/2000). It is one of the great insights of Schleiermacher that in the moment when educational activity becomes conscious of itself as a distinct practice, it exists in the realm of language. It is only because of this prerational linguistic character that educational theory as a specific sort of reflection and language is able to locate educational practice. Because it is always prior to reflection and theorizing, based on previous reflection but never reducible to it, this practice retains a dignity of its own. By taking up such prerational notions and analyzing and newly

synthesizing them, theory offers a conceptual framework, a map of notions that allows practice to be seen in a new light. As nature and reason (realism and idealism, practice and theory) are completely unified only in the ideal—whose attainment is the goal of all rationality—every theory (and therefore also every practice) is only a momentary glimpse of what is or could be. There is no universally valid theory of education. Instead, theory is oriented to the evolving meaning of the "highest good" that shapes educational practice (Schleiermacher, 2002, 2003).

Theory of Education

Schleiermacher tends to describe and analyze the world in terms of dialectical processes, and his analysis of education is no exception. To him, humankind—and life in general—is defined by the two modes of spontaneity and receptivity. Growing up is therefore shaped by two unavoidable, countervailing movements: (1) the process of development and formation of the subject that occurs through the self and proceeds along the lines inscribed in its nature (which Schleiermacher refers to as *Bildung*) and (2) the developmental process of the subject motivated by external influences exerted on the younger generation by the older, which seeks to maintain existing cultural achievements and hopes and to perpetuate that which is regarded as important and worth passing on. The very question of what the older generation expects from the younger is central to Schleiermacher. This prereflective social reality serves as the starting point for Schleiermacher's interpretation of educational practice and enables him to situate education within the broader complex of social problems.

This results in a unique and, indeed, revolutionary approach toward education that, in modern terms, would be called *sociological*. Previously, the pedagogical relation was not regarded as being one of successive generations within a complex society but was seen as arising between two individuals—teacher and student, educator and *educandus* (prominently featured in Rousseau's *Emile*, a text paradigmatic for German discussions about education during the Enlightenment). For Schleiermacher, pedagogy—or *Erziehung*—is therefore placed within the tensions resulting from the differing volitions of a person engaged with his or her own development (the process of *Bildung*) and the society in which he or she is immersed—a context in which one's identity, nevertheless, needs to be realized. And although *Erziehung* as a social practice represents the voice of the universal, in the face of the child's particularity, society can only mediate between the developmental processes of the self and the goals of development presented externally.

As the development of the individual is the effective realization of the ongoing integration of nature and reason, education should not work to eliminate individuality (here Schleiermacher moves decisively beyond prevalent educational beliefs and practice). The educator has to take into account the self-formation process of the *educandus* and is expected to frame this formation without alienating the individual from himself or herself. Hence, educational practice is actualized in a relation of educator and *educandus* that prioritizes the self-formation of the child or student. According to Schleiermacher, education is consequently based on three operations: (1) protecting (*Behüten*)—preservation of what's there already in the child, (2) supporting (*Unterstützen*)—encouraging what seems to be in keeping with society's expectations, and (3) counteracting (*Entgegenwirken*)—discouraging what seems in disagreement with society's expectations. Consequently, the final result of the educational process remains open: Based on the cooperation of educator and *educandus* and on the specific interpretation of a given situation (hermeneutics), education is a delicate balancing act, one of mutual negotiation, rather than a technology for the reproduction of society or the fabrication of citizens or employees. Education cannot be about breaking the individual's developmental course, but it is about the possibility of guiding it. This is something that is realized through external conditions of the process of self-formation on both smaller (family) and larger (social) scales.

Although Schleiermacher's work did not result in the creation of a specific school of thought, his ideas became influential for educational practice and theory, at least within the northern Continental European tradition of education. Teacher education in Germany has benefited from his contributions, and his theoretical insights have long served as an impetus for the development of theories and philosophies of education.

Karsten Kenklies

See also *Bildung*; Hegel, Georg Wilhelm Friedrich; Herbart, Johann F.; Hermeneutics; Rousseau, Jean-Jacques

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School and Classroom Climate

The climate of any organization consists of the quality and character of life within it. It encompasses the unwritten rules, standards, and expectations that affect the behavior of individuals within the organization, and it also includes its social milieu, implicit values, and physical environment. School climate, sometimes referred to as the heart and soul of a school, has long been considered fundamental to effective education, being a product of the shared beliefs, values, and attitudes that shape interactions between the students, teachers, and administrators. When judged to be positive, school climate is strongly related to learning and especially to the social impact of schooling. It influences not only academic achievement but also teacher morale, student and parent satisfaction, and other important outcomes, such as students' emotion regulation skills and mental health, and reduced antisocial behavior, bullying, and dropout rates.

School climate encompasses buildingwide conditions influenced by leadership and management styles over time, such as the academic year. District-level analyses have proved less fruitful, although progressive policies, community resources, and economic conditions influence school climate. Similarly, classroom climate is shaped by the overall school climate, but it can be considered as a separate construct, especially at the elementary (primary) and middle (intermediate) school levels. Here, climate is more directly a function of how one teacher manages the social and emotional setting of the classroom on a day-to-day basis.

School Climate

To those working in or even visiting a school, its climate is recognized relatively easily. But because it is not a material entity, it has been difficult to define precisely. Nevertheless, there now exists a considerable body of literature reflecting a variety of well-developed psychometric measures. These instruments typically ask students to rate their perceptions of the support they receive from teachers (e.g., *Adults in my school care about me and how well I do academically*), student–student relationships (e.g., *Students in this school respect each other*), dimensions related to fairness and autonomy (e.g., *My opinions are respected*), and the overall sense of acceptance and belonging (e.g., *My school is a good place to be*). Among the many available questionnaires, a useful brief measure is the Delaware School Climate Survey, developed by George Bear and his colleagues.

Based on such measures, there are well-documented associations between positive school climate and academic achievement, effective violence prevention, student prosocial development, and teacher retention. Even subtler forms of discrimination, such as homophobic bullying and teasing, can be reduced by promoting a positive school climate.

Much of the published research has taken place within the United States, but an increasing number of studies from around the world have demonstrated that a positive school climate can even have moderating effects on exposure to toxic influences such as community violence. Other reported benefits of a positive school climate have been in reducing adolescents' levels of depression and raising self-esteem—gains found in Chinese, British, and Australian as

well as American high schools. Studies conducted in more collectivist cultures suggest that positive social relationships within the school are better predictors of student feelings of safety and belonging than any other environmental factor, including socioeconomic privilege. Fostering a school climate that is supportive of multiculturalism has been shown to improve students' empathy toward peers from ethnic minority groups.

What Influences School Climate?

It is widely acknowledged that the school principal and the senior leadership team are responsible for the climate of a school. Consistent management practices and cooperative discipline improve school climate, as does schoolwide positive behavior support. When students report negative climate conditions, they often identify disruptive behavior and lack of transparent discipline strategies as causes. If a principal is interested in schoolwide reform, he or she needs to pay close attention to the existing culture. This might include examining teacher relationships, including all teachers in decision making, and implementing policies that influence whether parents and families are accepted as a recognized part of the school community. A principal's willingness to encourage and promote learning, support the teaching faculty, reward dedication to teaching, articulate goals that are shared by all, and ensure fair distribution of resources has been shown to be related to teacher job satisfaction, which is then reflected in teachers' attitudes to the students.

Classroom Climate

Most of the research on educational climate has concentrated on the school as an organization; however, each individual classroom (most notably at the elementary school level) has a unique microclimate of its own. This is because of the highly significant influence on students of having a single teacher all year long, which of course heightens the impact of his or her teaching style, disciplinary tactics, and emotional intelligence. In fact, classroom-level factors can account for more variance in students' perceptions of climate than factors at the school level. Younger children's feeling of school connectedness is a direct function of their perception of acceptance by their classroom teacher. Teachers at the elementary level have a major role in combating low levels of bullying, such as being teased, being called names, or being left out of activities by peers on purpose. Teachers' skills in settling classroom conflicts in a fair manner are very salient even to young children.

As a result, most of our understanding of classroom climate comes from careful observation of teacher behavior and pedagogical style. That teacher affect and manner of teaching can be separated is illustrated by the idea that effective teachers are "warm demanders"—they have high expectations of children's learning and are strict in maintaining academic standards, but they do so in a way that is perceived by children as warm, supportive, encouraging, and respectful. Children of this age often comment about a teacher they really like that "she/he understands us" and "she/he can share a joke and laughs with us kids."

The classroom climate construct has been divided into at least four important domains:

1. Learning as exciting or imaginative (My teacher is always trying out exciting ways of doing things)
2. The instructional context (Most of my class days are well planned by my teacher)
3. The regulatory or disciplinary context (My teacher discusses with us why the school has certain rules and why they are important)
4. The interpersonal context (My teacher is interested in the personal problems of students and shares her or his own experiences)

Thus, classroom climate can be separated into three areas: (1) instructional style, (2) disciplinary style, and (3) emotional relationships. In all three, the complication is that any one approach is not inevitably suitable for all children, so that flexibility and respect for student differences become critical elements of a positive classroom climate.

The three areas are interrelated: The quality of the emotional relationship between teacher and student affects the manner in which learning opportunities and the imposition of discipline are interpreted and responded to emotionally by young students. For example, when students have a positive relationship with their class teacher, they are motivated to follow instructions, to communicate distress rather than act out, to engage in the current learning activity, to accept negative feedback, and to feel rewarded by praise and approval.

How Can Emotional Relationships Be Fostered?

If classroom climate is largely a function of the emotional relationship between a single teacher and a very diverse group of individual children, how can

such complex relationships be managed? Teachers cannot be expected to like all of their pupils equally, so in professional development it is necessary to emphasize the importance of fairness, of not showing favoritism, and being visibly accepting of individual differences in ability, learning styles, and cultural mores. The requirements are similar to the concept of emotional intelligence: Teachers' skills might include the ability to regulate their own emotions and manage their own stress.

A second skill domain is similar to that of the emotionally competent parent, who sees a child's emotional expression as a teachable moment—an opportunity to validate the child's feelings, normalize them in some way, and suggest ways of coping or dealing with negative feelings and sustaining positive ones. Called "emotion coaching," a student's negative or distressed affect can be an opportunity for increased intimacy and sharing of past experiences through emotion talk. Finally, teachers' contribution to classroom climate requires them to have emotional boundaries and standards. These include fairness, respect, availability, belief in students, avoidance of overinvolvement, willingness to set limits, refraining from manipulative or harsh control strategies, and developing calming and consistent routines and structures. Students immediately recognize when a teacher loves teaching.

In conclusion, as Jonathan Cohen has argued so cogently, school and classroom climate encapsulates such important elements of education that these concepts represent exciting new ways of thinking about the interpersonal attributes to be promoted in teacher training, as well as being a critical new frontier for improving social and emotional outcomes for all students.

Ian M. Evans

See also Positive Psychology and Education; Socialization; Teaching, Concept and Models of

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School Choice

Prior to the 1990s, most government-funded school systems in the developed countries operated on a model giving parents limited choice over where their children should attend. The most common arrangement was for government officials to allocate children to schools on the basis of their place of residence. Many systems allowed for some limited choice within that model; for example, the English system included schools run by religious organizations, and single-sex schools, into which parents could opt. Most systems allowed for choice beyond the government system: Private schools have always been an option in most countries for those willing and able to pay for them.

As early as 1955, the economist Milton Friedman proposed a radical alternative, removing the government entirely from allocation decisions. The underlying principle was that government schools are inefficient because they have no incentives to respond to any kind of consumer demand and so lack both the information and the motivation to educate children well. Parents are highly motivated to make choices that will benefit their children educationally and have better information about what their particular children need than governments possess. This entry describes school choice systems from around the world and then examines four objections to school choice. It concludes with a look at the impact of various forms of school choice on the development of student autonomy and equality of educational opportunity.

School Choice From a Global Perspective

Throughout the English-speaking world especially, but also in countries such as Chile and Sweden, government systems were reformed from the late 1980s on to accommodate much more parental choice than hitherto. England, Australia, and New Zealand all have well-articulated school choice programs in which every child is allocated to government schools partly in response to formal choices made by parents. The United States has a patchwork system, in which each of the following play a role:

Charter schools are directly government funded and regulated but operated by nonprofits, and they are required, when oversubscribed, to select applicants randomly.

Voucher schools are operated by private entities and are funded on a per-pupil basis with government money, and regulations vary considerably by state.

Public choice systems operate within, or sometimes across, districts, and parents choose among schools, usually only when there is spare capacity after all local children who want to attend have been admitted.

In all the countries mentioned, private schools continue to provide non-government-funded alternatives to the formal-choice networks.

The social scientific evidence concerning the effects of school choice is inconclusive about whether it improves the quality of schooling on average and, if so, how. Few reforms have been conducted in a fashion that allows for rigorous scientific evaluation. Where reforms have been countrywide (e.g., in England and New Zealand), they have typically been part of a package that includes enhanced centralized accountability systems. So it is difficult to attribute changes to one, rather than another, part of the package. Where reforms have been patchier, as in the United States, meaningful studies are more feasible.

Criticisms of School Choice

School choice attracts a number of distinct objections, and the remainder of the entry discusses these in turn.

Commodification of Education

First, some theorists object that formal school choice systems turn education into a commodity. The case for market allocation is strongest for those goods the provision of which we think should be based on people's existing preferences. But education shapes preferences, and the person being educated (the child) lacks any idea of what the end goal is of the good he or she is consuming. So, the argument goes, the markets are an inappropriate mode of provision for education. And school choice introduces markets into the provision process.

While education is, indeed, unlike most consumption goods in the way the objection assumes, it is inevitable that the markets will play some role in determining both what schooling is provided and how children are allocated to schools. Teachers are allocated to schools according to market mechanisms, and who decides to become a teacher is responsive to labor market conditions. Many educational services (e.g., textbooks, technologies, supplies, and even curriculums) are purchased through markets, and monetary decisions have to be made about how much to spend on schooling relative to other goods. Even in a system of pure allocation by neighborhood, housing markets will play a role in allocating children to schools, as will the availability of a market in private schooling. Schooling cannot, in a capitalist society, be entirely insulated from commodification (McMurtry, 1991).

Privatization of Education

Second, some argue that school choice emphasizes the private over the public, or common, good (Walford, 1996). By inducing parents to make choices about where their children attend school, government encourages them to consider and pursue only the private, and not the public, benefits: those that will accrue to their children rather than those that accrue to society as a whole. This is an empirical matter on which little evidence exists. The qualitative evidence suggests that, indeed, when choosing schools parents think primarily about the good of their children. But we do not have rigorous studies comparing the pre- and postreform motivations of parents.

Nor is it clear what the observation that consumers focus on private benefits tells us about the production of public benefits. Friedman himself argues that most of the benefits of schooling are captured by the individual being educated, but he acknowledges that some of the benefits are social. He bases his case for government funding on the conjecture that leaving the extent of provision to private funding would lead to undersupply of the public benefits. Supporters of school choice argue that the improvements to provision wrought by the introduction of choice and the consequent elimination of inefficiencies enhance the public good despite parental focus on the private.

Excessive Parental Control of Education

A third objection is related to the impact on children of parental control over their education. The more power parents have over their children's schooling, the more capacity they have to shape their children's values and to shield them from undesired influences. Most theorists acknowledge that parents should have considerable latitude when

raising their children. Some argue this solely on the ground that children are raised better when parents have such control, whereas others argue that parents actually have a self-interested right to it. But there is considerable dispute over how much control parents should have and what exactly should limit it. Some critics argue that giving parents too much control over education enables them to impede the development of their children's capacity to reflect carefully about how to live their lives. Some argue that children have a right to become autonomous, regardless of their parents' preferences, and others hold that respecting other citizens appropriately requires exposure in childhood to a wide array of reasonable but conflicting conceptions of the good. Both these interests are jeopardized by school choice. (For an argument that children do not have a right to autonomy, see Galston, 1991; for arguments that they do, see Callan, 1997, Brighouse, 1998; and for a careful critique of Brighouse and Callan's conceptions of autonomy, see Burtt, 2003.)

Inequalities of Educational Opportunity

A fourth objection concerns the distribution of educational opportunities. One effect of government support for schooling is the reduction of inequalities of opportunity. Advantage and disadvantage are transmitted from parent to child through various mechanisms—parenting styles, access to networks, financial support and assurance, and genetic endowment. To some extent, government-funded schooling reduces these effects, primarily by ensuring that the children of parents who are unable or unwilling to pay for the few hours a day of schooling that the state requires are nevertheless provided for. The primary concern about school choice within a government-funded system is that it will result in worse academic outcomes, and hence lower opportunities, for those children whose parents are least attentive to their schooling and those whose parents are least well-informed. This is a problem insofar as equal opportunity matters (Brighouse, 2000) and insofar as justice requires that we prioritize improving the prospects of the least advantaged over improving the prospects of others (Schouten, 2012).

Impact of School Choice on Autonomy and Equality

Suppose that the interest in autonomy and in prioritizing the educational prospects of the least advantaged (whether intrinsically or to reduce inequalities of opportunity) are both very weighty concerns. How much weight the third and fourth objections have as criticisms of school choice depends on the details of the choice system under consideration and on what the alternatives are.

With respect to autonomy, consider the Milwaukee Parental Choice Program (MPCP). The participating schools are very lightly regulated with respect to the curriculum and the values that the school promotes. Most of the participating children attend Catholic schools, and most of the rest attend religious schools of a different denomination. Parents committed to undermining their children's prospective autonomy have the opportunity to use the vouchers to help them achieve that goal. Compared with the English government school choice system, the MPCP schools offer significantly less support for autonomy. Choice is much more pervasive within the English system, but all participating schools are regulated by a well-articulated national curriculum, which specifically includes both requirements and resources that are likely to promote autonomy. But when the MPCP schools are compared with respect to the choices actually available to parents of potential MPCP students, the situation is not so clear. Unlike the government schools in England, the public schools from which the children in the MPCP are drawn are secular and involve very little formal exposure to religious traditions and commitments. These schools are not subject to curricular requirements concerned with promoting autonomy and are also low-performing schools (hence the political pressure for the voucher system). Religious instruction is far from being the only threat to prospective autonomy—the materialistic commercial mainstream culture that pervades many government schools in the United States is at least as likely to undermine autonomy. The design of the MPCP is not autonomy supporting, but its schools may be no worse in that respect than the real alternatives. (See Levinson, 1999, for a related qualified defense of choice.)

Now consider the goal of benefiting the least advantaged students. Critics of school choice observe, rightly, that evidence indicates that parents from more educated and wealthier backgrounds are better equipped to make high-quality choices on behalf of their children. These critics worry about schools cherry-picking the easiest to teach students, who benefit from the effects of having peers from more educated and wealthier families, while students who are more difficult to teach are concentrated in

less popular schools, where it is harder to induce high-quality teachers to work and where different peer effects are present.

Again, the extent to which these phenomena harm the least advantaged depends on the details of the school choice program. A voucher system like that proposed by Friedman, in which the government simply subsidizes part of the cost of schooling, allows schools to select students, and requires parents to pay the remainder of the cost after the government subsidy would presumably work considerably to the disadvantage of the least advantaged.

However, voucher systems can be structured to avoid this effect. In the Netherlands, where almost all schools are private and funded through effective vouchers, the vouchers are progressive; considerably more money follows disadvantaged than advantaged students. In England, the funding formula is more opaque, but schools with high concentrations of disadvantaged students receive about double the per-pupil funding, and schools may select only according to publicly agreed-on criteria. Oversubscribed schools in the MPCP are required to choose among applicants by a lottery, limiting their ability to cherry-pick students; and the vouchers for the first two decades of the program were limited to low-income students. (For a major study of the first decade of the program, see Witte, 2000.)

Still, all three systems face the problem that better-educated and wealthier parents are better choosers. However, in the default (nonchoice) system, these are exactly the parents who already exercise choice through the housing market and by lobbying their children's schools for special programming. The relevant question when evaluating whether a choice system would be better for the less advantaged than a nonchoice system is not how much better more advantaged parents are as choosers than less advantaged parents but how much better *the state* is at making appropriate educational decisions than are less advantaged parents. The worse the schools attended by less advantaged students in the nonchoice system, the less likely it is that a school choice program will harm them.

Some degree of school choice is an inevitable feature of any system for allocating children to schools. Formal-choice schemes vary considerably in their design, some better and others worse suited to meeting the normative goals of schooling (for more detail, see Brighouse, 2008).

Harry Brighouse

See also Autonomy; Charter Schools; Children's Rights; Right to an Education; Rights: Children, Parents, and Community

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Schooling in the United States: Historical Analyses

Embedded within historical analyses of schooling in the United States are a variety of theoretical perspectives. There is broad agreement about the reasons for the founding of public school systems but considerable disagreement about the factors that have

shaped the evolving social role of these systems once set in motion. This entry examines theories about both stages of educational development, with special emphasis on the alternative understandings of the purposes and functions of schooling after the founding of the common school system in the mid-19th century.

In the U.S. context, to speak of theories of the history of schooling is perhaps oxymoronic. Unlike their European counterparts, American historians of education have an aversion to engagement with social theory, which arises from the strong Anglo-American tradition of empiricism. The tendency is to focus on the contingencies of time and place and let the story emerge from the data, free of theoretical framing. As a result, this review of theories of the history of schooling draws mostly from sources outside of history itself, in particular from sociology, economics, philosophy, and curriculum theory.

The consensus view is that public schools first arose in the American colonies almost entirely for religious reasons. This rationale emerged from a central tenet of Protestantism, that every Christian needed to have unmediated access to the Word of God, which in turn meant the ability to read the Bible. Communities had to establish schools in order to keep the faith. There was also a less elevated reason for individuals to pursue schooling: Learning to read, write, and figure was a matter of survival in the intensely commercial economy of British North America. But although the latter helps explain the extraordinarily high literacy rate in the colonies compared with the mother country, religion was what drove the establishment of the first public schools.

The common school movement in the second quarter of the 19th century established publicly funded and publicly controlled systems of community schools aimed at making primary education universal. In the consensus view, this happened almost entirely for political reasons. In historical accounts of the founding of universal systems of education in the United States and Europe, the core motivation was to support the creation of the modern nation-state. The idea was to bring people together into a community school, induct in them a sense of citizenship and a common set of useful skills, and lead them from the old world of patriarchal obligation to the modern world of individual achievement by freestanding citizens.

With the history of nearly 200 years of development after the launching of the common school systems in the United States, the consensus begins to fray. One view of the purposes and functions of the system came to dominate and persisted over time, but this position has been open to challenge from a variety of perspectives. The view that has carried the greatest weight, in both academic and popular understandings of the history of schooling, is *meritocratic functionalism*, and the three main contending perspectives are *social reproduction theory*, *status competition theory*, and *postmodern theory*.

These theories of the development of schooling vary in the way they treat a series of fundamental tensions in the understanding of how schools work:

Socialization and selection: Schools serve both of these social functions. They socialize students, imbuing in them the desired social norms and values and giving them the knowledge and skill they need to play social roles effectively. They also select students, directing them toward particular forms of work and positions in the social hierarchy. Theories differ in the relative emphasis they give to these two functions and in the designation of which is cause and which is effect.

Consensus and conflict: Theories differ in the degree to which they see schools as a shared social construction or as an imposition by one group on another.

Function and agency: Theories also differ in the way they conceive the historical processes in the development of schooling. In the functionalist view, schools emerge organically to meet the broad institutional needs of society. In the agency view, school change happens through the actions of individual actors pursuing their own ends.

Substance and form: Some theories stress that the primary effects of schools arise from the substance of what they teach, but others stress that the impact of schooling arises less from the substance of learning than from the form of schooling.

Theoretical grounding: Finally, alternative theories of educational change tend to ground themselves in the work of different theorists. In particular, they tend to stress Émile Durkheim, Karl Marx, Max Weber, or Michel Foucault.

Meritocratic Functionalism (Socialization Leading to Selection, Consensus, Function, Substance: Durkheim). It is in the nature of dominant theories that, in the absence of explicit theoretical claims in an analysis, they become the default explanation. This is particularly salient for the case of American

work in the history of education, which avoids theorizing and thus often ends up inadvertently reinforcing the view embodied in meritocratic functionalism. It is also in the nature of dominant theories that they lack a clear label, since they do not seem to constitute a particular theoretical stance on a subject but simply represent what is. Often, meritocratic functionalism is called functionalist or modernization theory, but the proposed label is useful in capturing the theory's two key components.

According to this theory, schooling is functional in that it emerged to provide the full array of specialized skills and attitudes that are necessary for the efficient functioning of a complex modern society. In particular, drawing on economic theory, schools are seen as machines for the production of human capital—central for the development of the managerial economy and, increasingly, the knowledge economy. Schooling is also meritocratic in that it simultaneously emerged as a mechanism for allocating people to jobs (and thus social positions) based on their individual achievement in school. Schools thus constituted a major break point between traditional and modern societies by facilitating the shift from ascribed to achieved status. They offered individuals the opportunity to prove themselves on the level playing field of the classroom and then achieve social mobility according to their merit. Putting together the two elements—functionalism and meritocracy—the theory argues that schools allowed society to get what it needed and individuals to get what they deserved.

In general, historians and social scientists have not been arguing that the school system actually has been achieving both of these goals, only that the tendency has been in that direction. So for schools to be more functional, they have had to tailor teaching more closely to the needs of the modern economy; and for them to be more meritocratic, they have had to offset the ways in which the social position has shaped student performance. But the theory has trouble explaining important characteristics of the history of American schooling: Enrollments expanded long before school learning had economic utility, unequal social outcomes have persisted in spite of increased educational opportunity, and school systems emerged in a much more convoluted and inefficient form than the theory would have predicted.

Social Reproduction (Selection Leading to Differential Socialization, Conflict, Function/Agency, Substance: Marx). This theory challenges the claim that the school system has become gradually more functional and meritocratic over time. The core argument is that selection has driven socialization in schools. Students' social origins have determined the quantity and quality of the schooling they have received, which in turn has channeled them into jobs that have left them largely where they started. Thus, schooling has served to reproduce social inequality. The driving force in the system has not been consensus but a conflict over the allocation of power, money, and prestige; and those who have started out high in these social goods have been able to work the system to their continuing advantage. Schools have functioned to preserve class power. Class systems historically have always sought to preserve privilege for those on top, but what has been distinctive about class reproduction in modern societies is that schools have served to legitimate this process of social reproduction. Schools have taken class advantage and, through a process of educational alchemy, turned it into individual merit. At the end of their school careers, students have emerged with a socially certified label—smart or dumb—which then explained their future social success or failure.

Since legitimating inequality has been the school's central social function, schools have had to establish a modicum of credibility for this claim by allowing some poor students to get ahead and some rich students to fail. So reproduction theory is able to accommodate much of the mixture of mobility and reproduction that has emerged from schooling. But the dominant form of this theory has some of the same problems as meritocratic functionalism. It assumes a system that seems to operate behind the backs of teachers, students, and parents; and it asserts against evidence that schools have been smoothly functional in preserving the system. Another strand of reproduction theory deals with the latter problem by stressing individual agency over social function to account for the amount of dysfunction and resistance that have emerged within the system.

Status Competition (Selection, Conflict, Agency, Form: Weber). Like reproduction theory, status competition theory challenges the idea that unequal outcomes of education are the result of differences in individual merit, but it differs by emphasizing the importance of school in shaping a person's location within a finely graded structure of social stratification rather than within a crudely graded system of social classes. From this perspective, schools emerged

in response to the positional demands of a variety of status groups rather than the human capital needs of society or the power needs of the dominant class.

This theory sees school systems as developing stratification not only by level (e.g., elementary, secondary, and tertiary) but also by the varying prestige of schools and the programs within schools at each level. Depending on level and prestige, schools and programs have come to teach different status cultures, which correspond to the cultures of particular status groups in the social hierarchy and particular workgroups in the occupational hierarchy. And schools have provided students with a form of cultural currency—grades, credits, and especially academic degrees—that they have been able to exchange for privileged access to social positions, with the most elevated, scarce, and prestigious credentials opening the doors to the highest positions. One form of the theory puts primary emphasis on the role of schools as credentialing institutions, where learning is at best a side effect. The primary strength of this theory is in explaining why school enrollment growth preceded the economic demand for skilled workers and why credential requirements for jobs rose so quickly. A central weakness is the difficulty in explaining why employers and policymakers have been willing to play along with this costly and socially irrational game.

Postmodernism (Socialization/Selection, Conflict, Disciplinary Power, Form as Substance: Foucault). Whereas the first three theories focus on the role of schools in placing students in varying locations in the modern social structure, postmodern theory looks at the role of schools in developing and maintaining a historically specific form of reason—a regime of truth—that has come to constitute modern society. The focus is on the discursive practices (formed in language and bounded by reason) that carry disciplinary power into all realms of social life. Schools have been central in purveying the social science disciplines that undergird this form of power, in constructing metrics (e.g., tests, grades, and degrees) for locating individuals on a normal curve of moral and social value, and in assigning and legitimizing the labels and social categories (smart/dumb, normal/abnormal, worthy/unworthy) that students have borne into adult life.

If other theories of the history of schooling tend to focus on educational inputs and outputs, postmodernism zeroes in on the practices of socialization and selection that are fundamental to the institution. It is particularly adept at showing how schools emerged as the prototypical institutions for constructing modern societies, using language and behavioral science to shape the reasoning, conscience, and social identity of the young. But it is less effective in trying to explain how and why American schools developed over time in historically distinctive patterns.

David F. Labaree

See also Apple, Michael; Modernization Theory; Postmodernism

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Schwab, Joseph: The Practical

Joseph Schwab (1909–1988) stands as one of the more important American educational and curriculum theorists of the second half of the 20th century. He made major contributions to the theory and practice of collegiate liberal education, science curricula, and religious and values education, and finally, as will be made clear in this entry, he made important contributions in the series of papers on the "practical," where he outlined a reconceptualization of the metatheory of curriculum making and school improvement. All of his work was based on his experiences of curriculum making, and particularly on his experience in the undergraduate college of the University of Chicago between his first appointment as an instructor in biological sciences in 1937 and the effective end of the "Hutchins College" in 1959. It was in Chicago that he encountered Ralph Tyler (the college's examiner), the philosopher Richard McKeon, and, through McKeon, John Dewey. Much of his work reflects their inspirations and concepts.

Thus, like McKeon and Dewey, Schwab argued that a curriculum should be grounded in the idea of

"faculties," or "powers," of the mind—in the capacity for a reasoned consideration of the ideas pervading the sciences, the culture, and the polity. His curriculum making always centered on the use and development of frameworks and resources ("arts") to support teaching that was directed toward the development of such powers. Following McKeon, he introduced from classical rhetoric the idea of *topica*—"places" or "commonplaces" (from the Greek *topos*, "place")—as necessary resources for the inventive activity that is curriculum making.

In his Inglis lecture at Harvard, Schwab introduced his commonplaces of subject, student, teacher, and milieu; these were coordinate topics that must necessarily be treated in any curriculum-making undertaking (Schwab, 1962, 1978d). In his Vietnam-era *College Curriculum and Student Protest* (Schwab, 1969), he drew on the commonplaces that he was to spell out later in his "The Practical: Translation Into Curriculum" (Schwab, 1978c)—privations and resources/potential. His essay "What Do Scientists Do?" (Schwab, 1978d) develops the commonplaces he used to frame the arts of reading scientific texts (the arts of recovery, hermeneutics) that were the hallmark of all of Schwab's teaching. "The Practical: A Language for Curriculum" (Schwab, 1978b) is derived from the Aristotelian places of ends, subject matters, problems, and methods ("from what, to what, in what, how").

The "Practical"

In his teaching on the natural sciences at Hutchins College, Schwab focused on the shifting starting points—that is, paradigms—used in the sciences as forms of doing that yielded knowledge of particular kinds. In addition, in his work developing the college's capstone course, "Observation, Interpretation, Integration" (OII), he had deeply explored the idea of the arts of theory, practice, and production, congruent with the Aristotelian division of the sciences. Twenty years later, in *College Curriculum*, he pursued the idea of the "practical" and a curriculum for public policy making.

Drawing these ideas together, he opened his first practical paper with the famous declaration that "the field of curriculum is moribund, unable by its present methods and principles to continue its work and desperately in search of new and more effective principles and methods" (Schwab, 1978b, p. 287). The problem, he contended, was the domination of the field of curriculum studies (and educational theory more generally) by the idea that there were theoretical principles that might frame its fundamental task of enhancement, or improvement, of schooling. He contended that this was an assumption that had been proven, by experience, to be untenable; in hindsight, it was possible to see that all educational theories were incomplete and/or partial in their coverage of their subject matters and were at best starting points that required application and adaption to the work of educating. Put another way, school improvement via curriculum making was an issue of decisions and choices about specific ends and means within institutions, courses, and so on. It necessarily embraces the commonplaces of subject, student, teacher, and milieu in ways appropriate to a specific place and time.

As Schwab saw it, the result of the unexamined preoccupation of the curriculum field with the "theoretic" was the transfer of the leadership of American schooling to fields other than curriculum. As a response to what he saw as this manifest crisis of the field, he contended that the field should renew itself and rebuild itself around a "practical" starting point or paradigm focused on decisions and choices toward improvement or enhancement in concrete situations. In the first practical paper, "Practical 1" (Schwab, 1978b), he ventured a sketch of such a reconceptualized curriculum field focusing on the end of decision, choice, and action. In the second part of the paper, and the later papers in the practical series ("Arts of Eclectic," Schwab, 1978a; "Translation Into Curriculum," Schwab, 1978c), he went on to develop a "practical" centered on one of his four topics—*methods*, that is, deliberation and the *arts* of the practical and the eclectic.

Conclusion

An appraisal of Schwab's "practical" papers requires the recognition that the set of papers reflected his larger commitment to the idea of developing the powers of the mind, the intellectual cultures and practices of his Chicago milieu, and his commitment to the idea of thought and action around the improvement or enhancement of schooling. In the practical papers, Schwab sketched a way by which the institutionalized curriculum field could develop, or redevelop, a "power" to enhance and improve American schooling, which he believed it did not have by the 1960s—although the same could be said of educational theory and research more generally. But, as he developed the thesis of the papers, two different arguments

emerged: (1) one centering on the generalized (meta-) theoretical differences between the practical and the theoretical as starting points for curriculum, "Practical 1.1," and (2) a specific attempt to work out the implications of that position in terms of the commonplace of *methods*, "Practica1 1.2." C. W. Wegener (1986) has criticized this second argument as requiring (a) a firm mapping onto the institution of the school and the school system and (b) an account of what the deliberations he outlines are about, a treatment of what *we* want to do as well as a treatment of how *we* might do it. He contends that both of these necessary steps are missing from "Practical 1.2."

But such disputes do not bear on the contentions of "Practical 1.1," with its central claim that the theoretic has not yielded a plausible basis for institutional action of the kind that might lead schooling and schools, and that theoretically based policy making for the "provinces" by what Schwab calls "Moscow" has likewise failed to yield sustained improvement on the ground. According to Schwab, such policy making all too often begins in mobilizations around bandwagons and necessarily seeks general solutions to specific, situated needs and problems. Amid claims that echo those of Schwab's practical papers, these insights have also been acknowledged in other fields to yield, for example, "practical theology," "real political science," "phronetic social science," "broken windows" approaches to policing, and so on. Many such sketches are, however, less well and less comprehensively developed than is Schwab's practical.

However, although there are notable exceptions, the practical has not secured a firm foothold in curriculum studies or educational theory as a program of theory and research—as distinct from a basis for exhortation to do things differently. Instead, forms of the theoretic have achieved hegemony, with at times an explicit rejection of Schwab's criterion of on-the-ground impact on schools as a framework for the evaluation of the health or otherwise of a paradigmatic framework. Curriculum studies have, it seems, passed the torch of improvement of schooling on to others.

Ian Westbury

See also Aristotle; Curriculum, Construction and Evaluation of; Dewey, John; Educational Research, Critiques of; Educational Science; Hermeneutics; Kuhn, Thomas S.; Phronesis (Practical Reason)

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Science Studies

See Actor–Network Theory: Bruno Latour; Edinburgh School of Sociology of Knowledge

Self-Regulated Learning

Self-regulated learning refers to processes that mentally and physically active learners use to activate and sustain cognition, affect, and behavior to attain

their goals. Self-regulation has been a recurring topic in theoretical and philosophical discussions of learning and instruction—antedating the rise of formal research. This entry will discuss the construct in terms of its historical background, the formative psychological research that has been carried out on it, and its implications for educational practice.

Historical Background

Consider the task of writing. Perusal of the biographies and autobiographies of successful writers reveals many examples of self-regulative efforts that are designed to improve their writing. For example, Benjamin Franklin described setting his personal goals and recording his daily progress in a ledger. To enhance the quality of his writing, he selected exemplary passages written by favored writers, and after extracting a list of key points, he rewrote the passage and compared the result with the original. He recorded areas in need of improvement in his ledger, as well as his subsequent success in correcting them. Although his formal education ended in elementary school, Franklin authored one of the most successful books in colonial America, *Poor Richard's Almanac*.

Other prominent writers, such as Ernest Hemingway, Victor Hugo, and Anthony Trollope, also relied on self-regulatory methods. Hemingway and Trollope kept quantitative records of daily written output to increase their motivation, whereas Hugo set creative contingencies to motivate himself to stay focused on the task, such as giving his clothing to his valet to be returned only when he reached his literary goal for the day. Although nudity is certainly an unorthodox method of self-control, Hugo found it effective in overcoming competing sources of attraction, such as the allure of a nearby tavern!

The key features that define self-regulated learning can be discerned in these anecdotal accounts of writing. Setting challenging qualitative or quantitative goals for one's efforts is essential, because they serve as reference points to chart one's progress. In more technical terms, goals enable learners to create self-oriented feedback loops to monitor their effectiveness and to improve their functioning. To respond adaptively to personal feedback, learners also need to control adverse cognitions, emotions, and environments (e.g., Hugo's creation of a conducive environment for writing). Setting challenging goals and sustaining self-regulatory efforts on demanding tasks requires learners to develop not only effective learning strategies but also supportive motivational beliefs.

Formative Psychological Research

Initial research on self-regulation of learning in the 1970s focused on separate self-regulatory processes, such as goal setting, self-efficacy, self-instruction, strategy learning, and self-management, with limited consideration for the implications regarding academic functioning in tasks such as mathematics or writing. During the mid-1980s, a number of researchers began to formulate nascent self-regulatory accounts of academic learning.

By the early 1990s, a number of efforts to adapt extant theories to explain self-regulated learning were published in special journal issues and edited textbooks. These theories included operant, social cognitive, volitional, phenomenological, and developmental stage accounts. These theoretical accounts of academic learning, which included motivational and self-control as well as metacognitive aspects of self-regulation, generated considerable research. A number of edited texts were published by the mid-1990s capturing the results of this first wave of descriptive research and experimental studies of self-regulated learning. By the end of the 1990s, the impressive outcomes of this empirical research led to pedagogical applications designed to enhance students' self-regulated learning. The results of these educational interventions were published in major journals and widely cited textbooks.

After the turn of the 21st century, a number of comprehensive accounts of self-regulation emerged that integrated metacognitive, motivational, and behavioral components in sufficient detail that they could be tested in instructional interventions. The authors of these accounts were Allyson Hadwin and Philip Winne, Paul Pintrich, and Barry Zimmerman. Although each account includes unique components, there is broad consensus on general phases, processes, and constructs. Rather than summarize these areas of agreement, the discussion will focus instead on Zimmerman's account, which like Pintrich's model involves multiple phases and like Hadwin and Winne's model involves cyclical feedback loops. Both Pintrich's and Zimmerman's accounts stemmed from social cognitive theoretical origins.

A Comprehensive Account of Self-Regulation

From Zimmerman's vantage point, learning involves processes that students use to initiate and sustain their quest for knowledge and skill. These proactive efforts to self-regulate their learning have been analyzed in terms of the three phases of a cyclical network (see Figure 1).

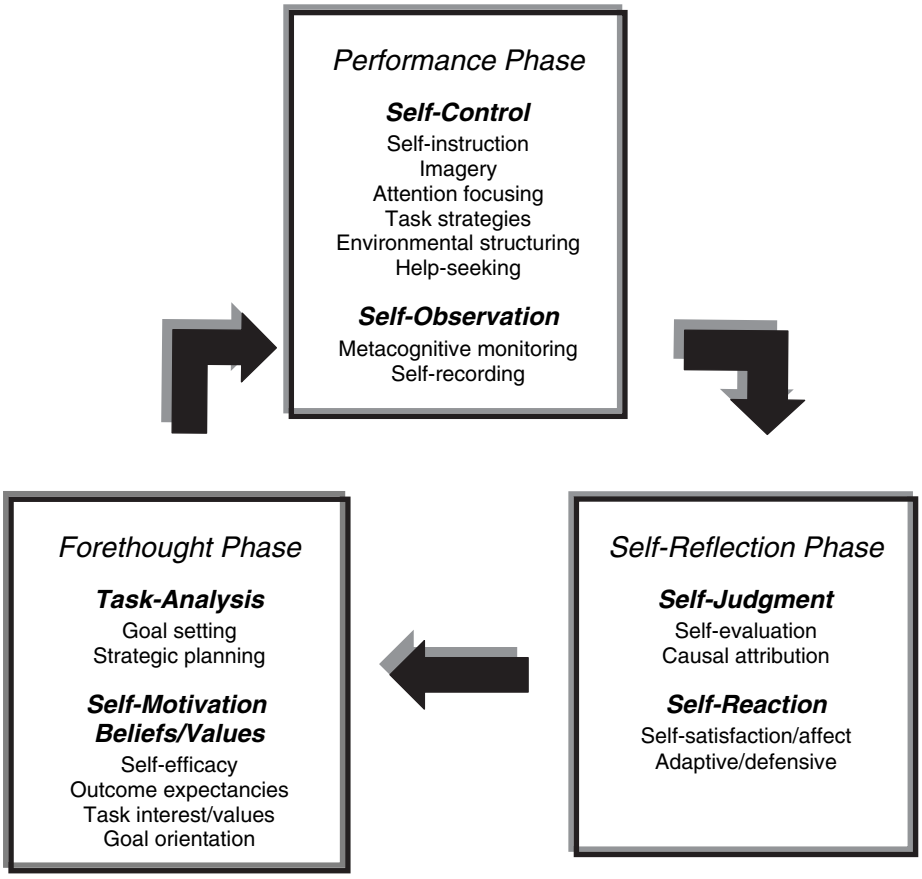

Figure 1 Motivating Self-Regulated Problem Solvers

Source: Zimmerman and Campillo (2003, p. 239). Copyright 2003 by Cambridge University Press. Reprinted with permission of the authors.

Forethought phase processes precede efforts to learn and prepare the way for them. These processes involve task analysis skills and self-motivational beliefs. During a subsequent *performance phase*, self-regulatory processes are designed to enhance ongoing efforts to learn, such as use of self-control strategies and self-observation processes. This second phase is followed by a *self-reflection phase*, involving processes that follow efforts to learn and enhance understanding of the implications of one's outcomes. These Phase 3 processes involve self-judgments and self-reactive processes. When unfortunate experiences trigger negative self-judgments and self-reactions, they undermine the self-motivation that is necessary to continue cyclical efforts to learn.

According to this multiphase account of learning, two distinctive cyclical patterns of self-regulatory processes have been identified: *Proactive* learners are distinguished by the high quality of their forethought and performance phase processes, whereas *reactive* learners rely on postperformance self-reflections to learn, but this a posteriori focus has been found to decrease these learners' effectiveness. All students seeking to succeed self-regulate in some manner, but those who are proactive have a qualitative edge over merely reactive students.

More specifically, during the forethought phase, proactive learners engage in superior *goal setting* and *planning*. They set specific, proximal, and challenging goals for themselves because of their superior task-analytic skills. In contrast, reactive students set vague, distal, or unchallenging goals for themselves because of their superficial task analyses. Furthermore, proactive students plan strategies to aid cognition, control affect, and direct motor execution. By contrast, the superficial task analyses of reactive learners preclude them from selecting a detailed strategy and compel them to rely on vague self-exhortations to try harder or concentrate more.

Because task analysis, goal setting, and strategic planning require personal initiative and persistence, they involve a high level of key self-regulatory

motives. Proactive learners are motivated by higher *self-efficacy beliefs*, greater *outcome expectancies*, adoption of *mastery learning goals*, and greater *task interest/valuing*. Self-efficacy refers to a task-specific measure of self-confidence. By contrast, reactive learners rely on inferior forms of motivation and as a result are less self-motivated to analyze tasks, select goals, or plan strategically than proactive learners.

During the performance phase, proactive learners engage in self-control processes that were planned during the forethought phase, such as *self-instruction*, *imagery*, *attention focusing*, *task strategies*, *environmental structuring*, and *help seeking*. By contrast, reactive learners engage in learning tasks without an explicit strategy for guidance. Furthermore, proactive learners rely on systematic forms of self-observation to guide their efforts toward self-control, such as *metacognitive monitoring* and *self-recording*. The former refers to mental tracking, and the latter refers to physical tracking of one's performance and/or outcomes By contrast, reactive learners find it difficult to track a particular process because they lack specific forethought phase goals or strategic plans to focus their attention. Instead, they tend to focus on outcomes.

Because proactive learners are guided by specific forethought phase goals, they tend to *self-evaluate* their performance based on their mastery of those goals during the self-reflection phase. Since reactive students lack specific forethought goals, they often fail to self-evaluate, or if they do so, they resort to social comparison with classmates to judge their personal effectiveness, which can lead to disadvantageous *causal attributions*. Reactive learners often self-evaluate using the grades of others as a benchmark for comparison, and they have a propensity to attribute any comparatively low performance lack of ability, which is classified as an uncontrollable cause. Proactive students self-evaluate based on self-chosen goals, and as a result, they typically attribute errors to ineffective strategies, which are classified as controllable causes. Regarding their self-reactions, proactive students will pursue courses of action that result in satisfaction and positive affect and will avoid courses that produce dissatisfaction and negative affect. In contrast, reactive learners' attribution of errors to uncontrollable causes, such as lack of ability, leads them to feel dissatisfied, and this in turn discourages them from further efforts to learn.

A second form of self-reaction involves adaptive or defensive inferences. These inferences refer to a person's need to alter his or her approach during subsequent efforts to learn. Proactive students make *adaptive inferences* when faced with errors (e.g., seeking a more effective strategy), due to their favorable attributions and high level of self-satisfaction; reactive students turn to *defensive inferences* to protect themselves from future dissatisfaction and aversive affect (strategies such as feelings of helplessness, delay, task avoidance, cognitive disengagement, and apathy), because of their unfavorable attributions and low level of satisfaction.

These self-reactions are postulated to influence forethought processes regarding further efforts to learn. Proactive learners' high levels of self-satisfaction are expected to enhance various forms of self-motivation to continue cyclical efforts to learn, whereas reactive learners' low level of satisfaction will discourage subsequent efforts. Advantageous adaptive inferences by proactive learners are expected to lead to improved strategic planning and to shifts in goals when necessary. By contrast, reactive learners' defensive reactions will undercut further attempts to learn. Thus, cyclical self-regulatory phase processes provide an inclusive explanation for both the persistence and sense of personal fulfillment of proactive students and the self-doubts and avoidance of reactive students.

Implications for Educational Practice

Different forms of instruction vary considerably in the frequency and specificity of the type of feedback they provide. The quality and quantity of feedback are keys to the size of self-regulatory improvements in functioning over successive cycles of learning. For example, classroom lectures provide little student feedback unless the teacher seeks answers directly from students or gives frequent quizzes. By contrast, computerized instruction can be designed to provide frequent feedback to questions that follow relatively brief text passages, and this advantageous property has led to a number of significant software interventions, such as those by Roger Azevedo or by Winne. When the quality or quantity of external instruction or instructional feedback is poor, proactive students rely on covert processes, such as goal setting, strategic planning, self-monitoring, and self-evaluation.

Consider college students in a traditional lecture course who receive two tests: a midterm and a final exam. Proactive self-regulatory students will set daily reading goals, highlight key terms, outline the narrative, quiz themselves at regular intervals, and keep records of successes, failures, and self-corrections.

Proactive students will often use study partners to compare notes (a form of modeling) and to test each other (social feedback). There is evidence that coping models that progressively eliminate errors are more effective than mastery models that perform flawlessly. Areas of unresolved difficulty would lead proactive learners to meet with the instructor to receive tutoring (a form of help seeking). Each of these self-regulatory processes is designed to make the learner more aware of his or her competence on the task at hand and of ways to improve it. By contrast, reactive learners do not set daily goals or experience feedback at a point when it is maximally helpful. Such students initially judge their progress favorably, until they receive adverse results from the midterm exam. There is now extensive evidence that students who engage in proactive processes not only learn better than students who rely on reactive processes, they are also more motivated and more likely to respond to feedback regarding errors in an adaptive way.

In describing mentally and physically active learners, John Dewey recognized the benefits of cyclical forms of self-regulated learning long before these terms were used scientifically. He commented in "Analysis of Reflective Thinking" that failure is instructive: "The person who really thinks learns quite as much from his failures as from his successes" (Dewey, 1934/1998, p. 142). Researchers who study self-regulated learning can now describe in detail what "really thinks" means.

Barry J. Zimmerman

See also Learning, Theories of; Metacognition; Motivation; Social Cognitive Theory

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SEMIOTICS

At its most fundamental level, semiotics is the study of the meaning of signs, that is, how individual units (e.g., words, signs, symbols, discrete actions, etc.) come to have meaning and how specific meanings come to be assigned to different representational units. This most basic definition tends to suggest a linguistic focus, which is actually a product of the American branch of semiotics, influenced by Charles S. Peirce. However, as a study of signs, symbols, and signification, semiotics is applicable not only to language and linguistics but also to any field wherein the analysis of meaning production is relevant. This broader focus is the purview of European semiotics and the Paris School of Semiotics (École de Paris). Apart from Pierce, other influential scholars in the early development of semiotics are Charles William Morris, Roland Barthes, Algirdas Greimas, Yuri Lotman, Umberto Eco, and Julia Kristeva. Among the linguists, other than Ferdinand de Saussure, are Louis Hjelmslev and Roman Jakobson; proponents of structuralism are de Saussure, Claude Lévi-Strauss, and Jacques Lacan. This entry gives an overview of the major approaches to semiotics and sketches some of their relevance for education.

American Semiotics

Peirce (1839–1914) was a scientist and philosopher who was one of John Dewey's teachers. He had a great interest in logic and the production of meaning,

which eventually led him to theorize on the presence and utility of signs and symbols in all aspects of life. The American branch of semiotics owes a great deal to Peirce's philosophy, in particular his sign categories; his work centers on communication, which gives it a more linguistic bent than European semiotics.

Linguistic semiotics has three branches: semantics, syntactics, and pragmatics. Semantics involves the relation between signs and their referents, for instance, an object or action and the word used to represent it. It functions at the level of individual words or phrases, exploring how a word comes to mean what it means. For example, how is it that the word *apple*, instead of the word *dog*, has come to represent a category of round, sweet, crunchy fruit that grows on trees?

Syntactics, on the other hand, focuses more on the formal properties of signs and symbols in interaction with each other. It studies the meanings of signs in relation to other signs within a formal structure, that is, how any one word relates to, or influences and is influenced by, the other words in a sentence or paragraph. For example, "Mary gives Fred a book" contains the same signs as "Fred gives Mary a book," but the sequence of those signs changes the meaning significantly.

Finally, pragmatics is the study of the interaction between signs and the agents producing them, that is, how meaning is influenced by the person or thing manipulating the signs, and its intentions in producing them. For instance, when Mary says, "Brrr, I'm cold," it could be simply a statement of fact, or it could be a hint to Fred to offer to close the window or lend her a sweater. But Fred, likewise, may interpret it as either a statement of fact or a request, thus affecting the outcome of the exchange. These multiple layers of intentions and interpretations are what pragmatics studies.

The École de Paris and European Semiotics

While American semiotics focuses more narrowly on the linguistic applications of semiotics, European semiotics applies it across a wider range of fields. This broader-based approach posits universal structures that may then be represented by different signs, symbols, or icons in different disciplines. In short, European semiotics explores the generation of meaning in all forms and fields, from the hard sciences to social practices. Eco, an internationally known semiotician, proposes that every cultural manifestation can be studied as communication. When one considers that semiotics can include the study of any field that ascribes signification or meaning to anything, one can easily see how its use could be pertinent to fields ranging from arts and literature to anthropology and mass media, covering all the social and biological sciences in between.

Semiotics and Education

Given its emphasis on the interpretation of signs and symbols, it is no surprise that semiotics is particularly relevant to pedagogy. Semiotics in education has two strands. The first deals with the teaching of semiotics as a school subject; the second strand employs semiotics for the purpose of understanding education, studying educational interactions as a kind of semiosis (Nöth, 1990).

Teaching is a special form of communication that seeks to convey meaning through signs, and learning is the converse of that: developing an ability to interpret signs and their meanings. On the one hand, semiotics can offer analytical tools for teachers to use in conveying their messages more effectively to students; on the other, learning about signs and symbols and their interpretation helps learners develop their cognitive abilities.

This is another field of study in which Peirce's theories had significant influence. For example, his method of abductive reasoning, or drawing inferences regarding the most reasonable explanation for an observed circumstance, is very useful in the classroom. This is also related to one of his theories of pragmatism, which posits the importance of experience in learning, whose influence can be clearly seen in the growth of experiential learning curricula in recent decades.

The second strand is better developed, mainly because educational theorists have found semiotics and semiosis to be useful for theory development in multimodal theory (e.g., Kress, 2010), for instance, discourse analysis (e.g., Prior, Hengst, Roozen, & Shipka, 2006; Scollon, 2001). Stables and Gough (2006) have proposed that living and learning are acts of constant semiosis and should be studied from a nonrealist perspective that eschews distinctions between mind and matter or sign and signal (signal being the version of the sign that is attributed to nonhuman actors).

The interdisciplinary and complex field of semiotics, however, has not given education much attention, with some notable exceptions, such as a special issue of *The American Journal of Semiotics*

(Volume 5, Cunningham, 1987). The study of semiosis in teaching, learning, curriculum, and educational policy has not been considered by many semioticians to be a significant aspect of the field (Cunningham, 1987). Major theorists who have had a significant influence on educational theory and semiotics have been drawn from linguistics (de Saussure), literary theory (Mikhail Bakhtin), psychology (Lev Vygotsky), sociology (Pierre Bourdieu), linguistic and cultural anthropology (William Hanks), and philosophy (Peirce). In this sense, semiotics of education is as diverse and as interdisciplinary as the field of semiotics itself.

Serafin M. Coronel-Molina and
Beth Lewis Samuelson

See also Mead, George Herbert; Vygotsky, Lev; Wittgenstein, Ludwig

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Service-Learning

Service-learning is a pedagogy that connects voluntary community action, and efforts to learn from that action, with existing knowledge. Those who practice service-learning have goals for students that include the following: academic and moral or character development, civic education and citizenship development, and skill building in areas that range from the arts and humanities to science and technology. Whatever their goals for students, practitioners also share a common commitment to partnership with and service to community organizations and residents. Students' learning and development must come through, and as a result of, their community engagement and not at its expense. Unheard of before the late 1960s, service-learning is now established and widely utilized in K–12 schools and colleges and universities worldwide. This entry traces the development of service-learning, outlining its theoretical foundations and varieties of practice, and notes some issues related to how it should be institutionalized.

Service-learning's earliest definition, the accomplishment of tasks that meet genuine human needs in combination with conscious educational growth, was first articulated in the late 1960s. Early practitioners called for structured opportunities for critical reflection as essential elements in volunteer service programs, so that students could learn from their experience, strengthen the impact of their work, and consider the broader social structures that present the problems they respond to as volunteers. For example, service-learning should not just enable students to volunteer in and learn about soup kitchens. It should also ask them to reflect on why people are hungry and what can be done about it—as individuals, as communities, and as a society.

Some service-learning advocates differentiate their practice from volunteer service in an additional way, questioning the nature of the service act itself and evoking a concept of reciprocity between server and served. Such an exchange helps avoid a paternalistic, one-way approach to service in which some people have resources, which they share charitably with others who are lacking in them.

Service-learning practitioners make their pedagogical home in the field of experiential education. They invoke the theories of established education scholars to explain the pedagogical foundations of their practice. For example, many structure their programs on David Kolb's cycle of experiential learning—action combined with critical reflection, conceptualization, and active experimentation with analyses—seeking to enable students to reconstruct their experience and question old ideas while acquiring skills in learning experientially. The goal is learning that transforms students, both increasing and

revising their knowledge and altering their perceptions and interpretations of the world. The pedagogical challenge is to devise ways to connect study and service so that existing knowledge illuminates and informs students' experience and to ensure that experience lends meaning and energy to, and perhaps stimulates a reformulation of, that knowledge.

Service-learning thus expresses a values-oriented philosophy of experiential learning that is integrated with its activist orientation toward society. It is an approach to experiential learning, an expression of values—service to others, community development and empowerment, reciprocal learning—that determines the purpose, nature, and process of social and educational exchange between learners and the people they are serving, and between the academy and community organizations with which service-learning works.

Until the late 1980s, service-learning held a small, marginal position within education. However, with the boost provided to active learning pedagogies by education reform movements, and to volunteerism by public calls for community engagement, programs began to proliferate. The Corporation for National and Community Service in the United States provided a major infusion of funding to secondary schools, colleges, and universities to establish programs and curricula. Principles of good practice were established. What was once a not well-known (or understood) form of alternative education was suddenly gaining attention from education policymakers, professional organizations, and ever-growing numbers of campus administrators, faculty, and students.

This proliferation was soon followed by growing numbers of scholars interested in researching service-learning to ascertain its outcomes and strengthen its theoretical underpinning. A project at Vanderbilt University funded by the Fund for the Improvement of Postsecondary Education led to the publication of one of the most influential books in the field, *Where's the Learning in Service-Learning*, which provided the basic foundation of evidence that service-learning has multiple student impacts on everything, from their academic knowledge and critical thinking to civic awareness and development of interpersonal skills and abilities. *The Michigan Journal for Community Service Learning* was established in 1994 and has become a premier publication for service-learning research.

With their pedagogy more firmly entrenched, practitioners began to return their attention to the community, placing increased emphasis on community partnerships as the basis for ensuring both program development and sustainability on campus and positive impact in the community. In this century, service-learning has taken off internationally both through North American schools and universities sending their students overseas and the rise of domestic and international service-learning in Africa, Asia, and South America.

In addition, a new discussion has erupted in the field related to how best to institutionalize service-learning within education institutions. Should the central aim be to build service-learning into the disciplines? Or is it inherently interdisciplinary? Should service-learning and other forms of engaged scholarship ultimately be given academic homes of their own and allowed to evolve into discrete fields, such as feminist and ethnic studies? Ultimately, these questions lead to a consideration of knowledge itself. As service-learning becomes more mainstream, it asks us to reconsider what knowledge is legitimate in the academy.

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See also Character Development; Citizenship and Civic Education; Democratic Theory of Education; Dewey, John; Experiential Learning; Problem-Based Learning; Reflective Practice: Donald Schön

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Sexual Orientation and Gender Identity

Philosophy of education's emphasis on applied ethics, conceptions of identity, and political critique, together with interdisciplinary interest in gender

studies and poststructuralism, has stimulated interest in gender and sexual minority issues. This inclusion has both marked out the difference of such minority identities as well as shown the implications of narrow norms of gender and sexual identity for all people. Work in philosophy of education has included examinations of the particular experiences and theories behind lesbian, gay, bisexual, transgender, and/or queer (LGBTQ) identity. Via queer theory, gay liberation, and lesbian feminist texts, it has also shown how gender and sexual norms define the experiences of those in minority and majority social positions. This entry outlines the work that is being done and the educationally relevant insights that have been gleaned in this rapidly expanding field.

Sexual orientation, that is, lesbian, gay, and/or bisexual identity, has increasingly become part of the focus of the branch of philosophy of education interested in educational equity and access, as well as in work focusing on policy and curricular controversies and challenges related to difference and pedagogy. Gender identity, that is, transgender or transsexual identity in which individuals' gender identity differs from their socially recognized birth gender, is increasingly an issue for schools; and as political movements increasingly seek to either ensure recognition and rights for gender and sexual minorities or queer normative gender and sexuality freedom for everyone, the acronym LGBTQ (or acronyms that also recognize linkages with intersex, questioning, and curious people as well, e.g., LGBTQQIC) is a way to indicate such commonalities of interests.

Studies of sexual orientation and gender identity are also deeply concerned with power, whether conceptualized as domination or as the more generative power discussed by Michel Foucault, who argues that rather than seeing power as repressive, we need to examine how relations of power also generate resistances. By challenging heterosexism, homophobia, and transphobia, LGBTQ philosophical studies in education point out the degree to which education relies on and inculcates "normal" forms of gender and sexuality. Such work also challenges educators to alter practices of heterosexism (the presumption that heterosexuality is better than other sexual orientations) and heteronormativity (practices that ignore, censor, or derogate all other sexualities).

In addition, by focusing on the process of gender construction and the diversity of possibilities for gendered identity, LGBTQ studies in education advocate that the cisgendered—that is, people whose assigned birth gender and gender identity are the same—challenge transphobia and think as carefully as do transgender people about the meanings and practices of gender.

Throughout the 1960s and 1970s, philosophers of education made brief and sporadic references to homosexuality, either to point out the power of gender norms or to indicate social deviance that should get more philosophical attention. In the first full-length essay focusing on gay studies in a major philosophy of education journal, Richard Mohr (1989) engaged the moral necessity of teaching about gay people and issues, especially given the widespread stigmatization of homosexuality. Using moral theory to explicate both the varieties of animus and the necessary normative force of gay studies, Mohr opened the conversation about gay studies in the philosophy of education, demanding that its intervention into a critique of normative sexual and gender identity be clearly understood as an ethical correction. Mary Bryson and Suzanne de Castell's work (1993) initiated a concerted turn toward poststructural queer theory while also keeping the experiential patterns of social positioning and their material effects clearly in view. Teaching queerly, they argued, tries to disrupt the usual narratives of learning and identity but invariably circles back over them as well, given the conservative structure of educational institutions and lingering conservatism among students. Deborah P. Britzman's (1995) psychoanalytically inflected queer theory, in relationship to the difficulties of pedagogy and the pervasive intransigence of the "normal," encouraged readers to "stop reading straight" and to understand the difficulties and the risks entailed by meaning making and by the interpretation of texts and of social relations.

The challenge of doing so has been charted in philosophical examinations of LGBT-inclusive curricular and educational policy, including multicultural approaches showing diverse families and relationship possibilities, preservice teacher education courses incorporating LGBTQ lessons, and work on LGBTQ student activism. Pragmatism's emphasis on the social processes of identity and the interruptions of such processes and liberal theory's principled defense of minorities and democratic education have been valuable resources in such work. In addition, attention to LGBT issues has pushed philosophy of education into an interdisciplinary relationship with qualitative research (Birden, 2004) and philosophically based cultural studies (Stitzlein, 2008). Philosophers of education have also shifted their methodological focus more firmly into

qualitative work to explore the political and identity-related experiences of queer youth, noting their resistance to dominant social and educational narratives demanding normalcy (Filax, 2007). The work of Foucault and Jacques Rancière, who traced the intricacies of power and knowledge, has also provided philosophical resources for work that examines the development of school-based LGBTQ organizations. Gender identity has yet to be fully discussed as a main topic in philosophy of education but has increasingly made its way into key examples in work concentrating on gender and sexuality (Mayo, 2008; Ruitenberg, 2010). Given the increasing attention to the educational needs of transgender youth and the increased possibilities of altering embodied gender, more work in this area will follow in philosophy of education, as it has also grown in other areas.

Work related to sexual orientation and gender identity in philosophy of education has maintained a focus on the disruptive possibilities of thinking queerly, whether in specific terms of sexual and gender identity or more broadly in terms of knowledge construction and dispute. As the longer history of philosophy of education has also been related to provocative and risky thinking, what may seem to be a marginal area is quite a traditional one, too.

Cris Mayo

See also Dewey, John; Foucault, Michel; Gender and Education; Identity and Identity Politics; Liberalism; Teaching, Concept and Models of

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Single- and Double-Loop Learning

The distinction between single- and double-loop learning has entered the lexicon of writers in the fields of professional and organizational learning, reflective practice, and organizational and social change. The terms are most closely associated with two American scholars—Chris Argyris and Donald Schön. For them, learning is not the accumulation of knowledge but the detection and correction of errors. Errors are mismatches between the intended and the actual results of action, whether the action was taken by individuals, groups, or organizations. Learning involves inquiry into the cause of the mismatch and revision of the action to bring about the intended consequences. This entry explains single-loop and double-loop learning and discusses the challenges in the implementation of double-loop learning.

The distinction between single- and double-loop learning is illustrated in Figure 1. It portrays the relationships between the three components of a theory of action and how feedback triggers revision of one or more of its components. A theory of action constitutes actions, the governing variables that they satisfy, and the intended and unintended consequences of those actions.

The distinction between single- and double-loop learning is illustrated with the following example. Imagine a supervisor who tells an employee that his or her performance is not up to standard. How the supervisor communicates this message (the action component of the supervisor's theory of action) is determined by his or her desire to persuade the employee to the supervisor's point of view and to do so with the minimum possible negative reaction. These two governing variables (persuade and protect) lead the supervisor to praise much of the employee's work and then briefly mention the concerns about the employee's performance. The consequence is no change in the employee's behavior. This is an error because the consequence (no change) is contrary to what the supervisor intended (improved performance).

It may be possible for the supervisor to correct the error by finding smarter ways of persuading the

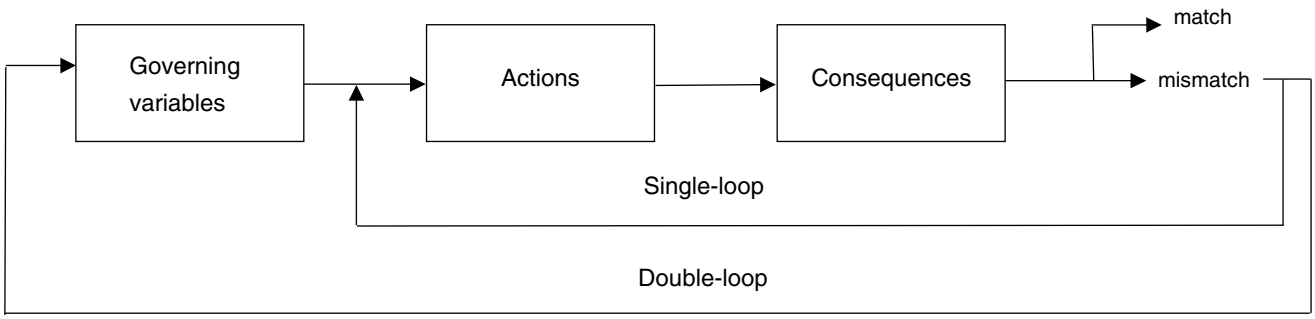

Figure 1 Single- and Double-Loop Learning

Source: Argyris (1999, p. 68). Reprinted by permission.

Note: This figure portrays the relationships between the three components of a theory of action and how feedback triggers revision of one or more of its components. A theory of action comprises the actions, the governing variables that they satisfy, and the intended and unintended consequences of those actions. In single-loop learning, only actions are revised as a result of feedback; in double-loop learning, the governing variables are revised, which then causes revisions to the actions.

employee of his or her point of view while still protecting the employee's feelings. This would involve single-loop learning, because the change is restricted to the action strategies, and the governing variables (persuade and protect) remain unexamined. There is no consideration of the adequacy of the values that are guiding the communication, or of the behavioral world that is created by such values, even if the revised action strategies prove effective. Double-loop learning requires adjustment of the governing variables that specify what counts as effective action. In this example, this would require inquiry into and possible revision of the supervisor's assumption that effective communication of negative feedback can be achieved by an appropriate balance of persuasion and protection.

Some writers on professional and organizational learning assume that double-loop learning is intrinsically more valuable than single-loop learning. This is not necessarily the case, as some errors can be corrected by adjustment of the action strategies without revision of the governing variables. What is clear, however, is that the capacity to double-loop learn, and thus to question our assumptions about what counts as effective action, is essential if individuals and organizations are to detect and correct errors that are caused not simply by poor choice of strategy but by taken-for-granted values and assumptions.

The empirical literature on professional and organizational learning suggests that double-loop learning, at both the individual and the organizational level, is rare. There are several reasons for this situation. First, systems theorists attribute the difficulty to the dynamic complexity of many organizational tasks. Errors are hard to detect when actual and intended outcomes are difficult to measure. They are even harder to correct when causal relationships are obfuscated by multiple interactions, delayed effects, and constantly changing environments. Second, cognitive psychologists point to the fact that our memory and information processing are designed to favor efficiency over accuracy, and so we are more likely to notice and select information that confirms rather than disconfirms our prior experience and beliefs. Third, Argyris and Schön themselves attribute the rarity of double-loop learning to the prevalence of defensive interpersonal and organizational reasoning. This occurs when people experience or anticipate threat or embarrassment and avoid or ignore attempts to inquire into its source. Supervisors display defensive reasoning to the extent that they ignore or rule out the possibility that their own assumptions about how to be effective have contributed to the error. Individual defensiveness in such situations is likely be exacerbated by defensive organizational cultures in which norms of loyalty and face-saving prevent discussion of the adequacy of the supervisor's theory of action. Taken together, these three factors provide formidable obstacles to double-loop learning.

The idea of double-loop learning has much in common with that of reflection, especially when the latter is conceived as a continuous process of critical inquiry into the adequacy of assumptions about the nature and desirability of the status quo. Unlike many approaches to critical inquiry and critical

reflection, however, Argyris and Schön's project has been centrally concerned not only with identifying the structural, cultural, and communicative barriers to double-loop learning but also with designing interventions that provide tough tests of their theories about how to create the conditions that make double-loop learning more likely.

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See also Reflective Practice: Donald Schön; Theories of Action

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Situated Cognition

See Distributed Cognition

Social Class

The field of social class is a rich and contested area that has evolved considerably since Karl Marx (1818–1883) published *Capital* in 1867. Marx was the father of modern social class theory, and his theoretical framework was very much the product of a specific time and place, namely, European class society under conditions of industrial capitalism in the 19th century. Marx as well as Max Weber (1864–1920) are still influences on social class theory but have lost the dominance they held in the first half of the 20th century. Even in contemporary class theories, such as those of Pierre Bourdieu, there are important traces, although largely unacknowledged, of Marxist and Weberian class thinking. After the radical class theory of Marx lost favor from the 1960s onward, there was a period when the dominant trend within class theory took a far more conventional approach, focusing primarily on the development of empirical class categories and schemas. That approach, which concentrated on position in the labor market, has recently been eclipsed, however, by a concern with understanding how those class positions are lived and experienced and how they affect an individual's education. Following a description of the particulars of Marx's and Weber's respective class theories, this entry reviews and compares the various class schemas that were devised to succeed them, outlines the main themes in the work of Bourdieu and a number of noted theorists who have been influenced by his approach, and notes the importance of the lived experience of social class for contemporary educational theory.

Class Theory in the Work of Marx and Weber

Marxist class theory was premised on the view that the history of society is the history of class struggle. At the core of Marxist social class theory was the notion of social transformation and the creation of a fair, socially just society in which unequal classes and the unjust relationships between them would no longer exist. Marx's analysis conceptualized relationships between individuals as being shaped by their relative position in relation to the means of production of goods. So classes are seen to be aggregates of individuals who perform the same respective functions in the labor market. Classes in themselves, however, actually only become classes when individuals occupying similar positions in the labor market become conscious of their common fate. This notion of collective class consciousness was key to Marxist class theory but has become increasingly problematic when applied to recent and contemporary society, in which there is little if any sense of collective class consciousness. Marx also created a binary relation between workers and the owners of the means of production, equating the former with the oppressed and the latter with the oppressor. The problem with such a division has been the growing numbers in the middle and upper classes who are not owners of the means of production. Senior managers, for example, may wield a great deal of economic power, although they are only salaried employees.

Less influential but still important for its focus on the relevance of consumption to class understandings has been the work of Weber. Weber differed from Marx in that he classified people into groups based on their consumption patterns rather than their position in the labor market. He saw class position as determined by a person's skills and education rather than by his or her relationship to the means of production. His theory combines class, which he defined as a person's economic position in society, with status, a person's prestige and level of social honor, and power, a person's ability to achieve his or her own ends. This provided a conceptual framework for understanding social class beyond the economic, in terms of life chances and symbolic rewards as well as market opportunities.

The Class Schema Approach

However, interest in Marxist and Weberian readings of class were largely superseded in the last half of the 20th century by approaches that were less radical and that were strongly influenced by quantitative and positivist methodologies within sociology. These approaches, which were concerned with developing class schemas, adopted a narrow and very specific conception of class, mainly defined in terms of employment situation. The social transformation of society that lay at the core of Marxism was replaced by a static notion of social class. The most common was a three-stratum model, dividing society into three general categories: (1) the upper class, the wealthiest 1% to 2% of the population; (2) the middle class; and (3) the working class. The middle-class category has been the most contested, and it is where most people claim to belong. It has recently been conceptualized as "the particular-universal class" (Ball, 2003), part of a growing trend for the middle class to be understood as the class whose practices are regarded as universally good, normal, and appropriate. As a result, in countries such as the United States and the United Kingdom the term *middle class* is applied very widely and encompasses many people who objectively would be considered working class or even upper class.

The three-stratum model accentuates interclass differences, but there is an important body of class theory that emphasizes intraclass differences, in particular intra-middle-class differences (Bernstein, 1996), arguing that internal divisions such as employment in the public or private sector, urban or rural living, and length of time one's family has been middle class all have salience in relation to class identities, values, and practices. In contrast, intra-working-class differences constitute a neglected area in social class theory.

Not all class schemas used a simple, three-stratum model. Some were much more sophisticated. The Goldthorpe class schema, for example, is based on 11 classes, which are grouped into three main clusters—the service class, the intermediate class, and the working class (Goldthorpe & Marshall, 1992). A small number of class schemas, for example, those devised by Erik Olin Wright (1985) in the United States, attempted to formulate a Marxist-based class schema. He retained the Marxist approach of categorizing people in the labor market in terms of their relationship to the means of production and integrated notions of exploitation into the categories. But most of the scholarship in the area saw itself as moving beyond Marxism rather than attempting to build on it. This more empirical, work-based approach has been attacked for reducing class to little more than aggregates of occupations, and it has been increasingly criticized for not addressing either the cultural or the embodied experiences of belonging to a particular class. The class schema approach to class theory was seen to neglect the subjective experience of belonging to a particular class, marginalizing the meaning of class and the nature of class consciousness.

Bourdieu and Beyond

The most recent approach to class theory takes a much broader stance, incorporating a wide range of identities, behaviors, and attitudes. This approach, which gained popularity during the late 20th and early 21st centuries, has been strongly influenced by the theorizing of the French sociologist Pierre Bourdieu (1930–2002), and it developed as a result of the awakening of interest in identity and symbolic domination. At present, social class is seen to be a matter of unequal social recognition as well as unequal distribution of economic resources. Class is viewed as centrally implicated in culture and identity. One consequence is that social class is no longer seen to be just about exploitation and economic inequalities but about cultural and symbolic domination as well. As a result, there has been a move away from viewing the labor market as the epicenter of class production and reproduction; social class came to be defined not by relation to the means of production or by possession of specific skills and capabilities but by possession of all forms of economic capital (wealth and income), social capital

(contacts and networks), and cultural capital (education and "good taste"; Bourdieu, 1984).

This new theory of class as cultural, individualized, and tacit is often in tension with older Marxist conceptions of class as collective and oppositional, where one's class position was seen to be unambiguous and clear to all. However, a new strand of class theory attempts to bridge the two different conceptions of class as individualized and collective by developing psychosocial understandings of class in which psychic and moral economies of class are mapped out. These outline the ways in which class identities generate feelings of inferiority and superiority, visceral aversions, defenses, recognition, and abjection, constituting new forms of class consciousness (Reay, 2005). Such work often draws on Bourdieu's concept of *habitus* as a conceptual tool that integrates the individual and the collective. Bourdieu (1985) developed the concept of habitus to exemplify the ways in which the wider social world is inscribed in the body of the biological individual. So a person's individual history is constitutive of habitus, but so also is the whole collective history of family and social class that the individual is a member of. Much of this scholarship on social class inspired by Bourdieu shares the ambition of earlier Marxist class theory in attempting to combine objective and subjective notions of class. It endeavors to map individuals' position in social and economic fields while also examining the impact of this position on values, practices, and self-identity through the lens of habitus.

Contemporary conceptions of class now include understandings of how class is lived and experienced on an individual as well as a collective level. This has meant a return to the in-depth focus on the lived experience of social class so powerfully portrayed in the work of Richard Sennett and Jonathan Cobb (1973) and Lillian Rubin (1976) in the United States and of Brian Jackson and Dennis Marsden (1966) and Paul Willis (1977) in the United Kingdom in the mid- to late 20th century. It has also underscored the importance of class for education. Not only is social class seen to have a large impact on an individual's educational opportunities, but it is also seen to have major consequences for his or her educational experiences and the extent to which each one comes to see himself or herself as an insider or outsider in relation to education.

Conclusion

What the history of class theory to date reveals is that there is an important place for both quantitative and qualitative methodologies and understandings of class. At the beginning of the 21st century there is an increasing consensus that social class theory should combine class schemas with a focus on the lived experience of social class; there is a growing recognition that we need to know not only individuals' position within the social structure, and in particular the labor market, but also how that social location is lived and experienced and how it affects educational experiences as well as wider social opportunities and outcomes.

Diane Reay

See also Marx, Karl

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Social Cognitive Theory

Social cognitive theory (SCT) is an account of human behavior and learning developed during the last half of the 20th century by Albert Bandura, a Canadian psychologist and professor of psychology at Stanford University. SCT is one of the most influential psycho-

logical theories of learning informing contemporary education. Its theoretical assumptions and the ways in which they have enabled and constrained educational inquiry and practice deserve careful, critical consideration.

SCT's core postulate is that our behavior, thinking, and learning are constituted within a triadic, reciprocal interactivity among personal, behavioral, and environmental factors in which each set of factors is connected causally and bidirectionally to the others. This core assumption is accompanied by two additional and closely related assumptions: (1) that persons have a constrained, yet potentially influential capability to self-determine their actions and (2) that although learning requires the experience of behavior and its consequences (either directly or vicariously), learning cannot be reduced to behavioral change. Learning that involves the acquisition of knowledge, concepts, rules, strategies, and values may not be evident in immediate behavioral change, as some forms of behaviorism assume and require. This entry discusses the development of SCT, the adequacy of the model of triadic reciprocal determinism, the theoretical and conceptual difficulties of SCT's depiction of human agency as self-efficacy, and potential directions of research into SCT and its applications in education.

During the second half of the 20th century, Bandura, his students, and many others produced a steady stream of empirical demonstrations of observational learning, the role of self-beliefs in learning (especially beliefs concerning one's ability to perform particular actions related to personal goals), and the instructional effectiveness of psycho-educational interventions utilizing modeling, belief modification, and self-regulation. In general, these demonstrations are interpreted as confirming the basic SCT tenets of triadic, reciprocal determination, social learning in the absence of immediately observable behavioral engagement or change, and self-determination or self-regulation. SCT is currently one of the most influential psychological theories informing educational practice in North America and, increasingly, throughout the world. Nonetheless, a steady stream of critical reactions to the core assumptions and research and intervention practices of SCT has attended the history of its ascendance.

How Adequate Is the Model of Triadic Reciprocal Determinism?

Bandura (2001) claims that the model of triadic reciprocal determinism assumed in SCT avoids "contentious dualisms" that "pit psychological and sociocultural theories as rival conceptions of human behavior" (p. 14). The advantages of theorizing permeable boundaries and ongoing interactivity across personal, behavioral, and environmental (especially sociocultural) factors are clearly illustrated in the empirical success of Bandura's theorizing about observational learning. Confirmation of the acquisition and strengthening of behavior through observing the execution and consequences of the behavior of others surely counts as one of the most reliable and important findings in the history of applied social psychology (Barone, Maddux, & Snyder, 1997). The social and educational relevance and significance of such work is undeniable and has clear implications for a wide range of educational interventions aimed at reducing aggression and teaching socially desirable conduct, as well as strategies for learning and studying.

Nonetheless, SCT and the model of triadic reciprocal determinism it assumes are not free of "contentious dualisms." The latter clearly separates behavior from personal factors such as intentions, deliberations, reasons, goals, and purposes. This separation implies that behavior is not personal in the way in which cognitive, affective, and biological factors are personal. Severing behavior from the motives, understandings, and emotions that attend it has important theoretical consequences, several of which are most obvious in SCT's depiction of human agency as self-efficacy.

Self-Efficacy

"Perceived self-efficacy refers to beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997, p. 3). In terms of SCT's model of triadic reciprocal determinism, self-efficacy is conceptualized as a personal factor that is causally efficacious in producing goal-directed behavior. Many critics have raised concerns about this conceptual and theoretical framing of self-efficacy (see Martin & McLellan, 2013), pointing out that it is impossible, artificial, and/or misleading to separate self-efficacy from the behavior for which it is supposed to constitute a causal explanation. When people act, their appraisals of the action context and their own capabilities are part and parcel of their acting, as are their motives, emotions, and mannerisms. With its core assumption of triadic reciprocal determination, SCT creates an inner, psychological cause for behavior by theoretically

removing the intentionality, predictability, and judgment that are part of any action, applying the label of *self-efficacy* to that which has been removed, and then treating self-efficacy as a cause of the very actions from which it has been theoretically separated. But parts of actions cannot be causes of that of which they are parts. For this to be the case, it would need to be shown that self-efficacy exists independently of the actions with which it is associated.

However, it seems clear that self-efficacy is conceptually linked to action in a part–whole relationship. Self-efficacy is not a cause of a student's ability to sit attentively in class or to solve quadratic equations. Perceived self-efficacy is part of one's intentional engagement when attending and doing algebra. The ability to perform or execute such actions is a consequence of a history of social learning that has unfolded during the course of students' lives. If we want to determine the causes of educationally significant actions, we should look at these histories of interactivity within the sociocultural and biophysical world. We should not assume an immediate, proximal psychological cause that has the effect of foreclosing our inquiry. In educational contexts, there are many obvious causal factors that demand our attention, including the quality of teacher–student interactions, the funding and administration of schools, the social and political practices of communities, and so forth. As Biglan (1987) has suggested, a consideration of social, contextual factors as possible causes of self-efficacy and the actions of which it is part is more likely to yield knowledge of our agentic functioning as persons than is the collection of self-efficacy ratings.

Another way of critiquing some of the theoretical, conceptual difficulties created by SCT's fitting of human agency into its model of triadic, reciprocal determinism is provided by Smedslund (1978). Smedslund has argued that the theory of self-efficacy relies on commonsense ideas and conceptual understandings that make the purported empirical, causal relation between self-efficacy and behavior a matter of logical necessity. According to Smedslund, when psychological researchers in education find that individuals with high levels of self-efficacy are more likely to perform well than individuals with lower levels of self-efficacy, such a finding is nothing more than the commonplace recognition that people who think they can do things are more likely to do them than people who think they cannot do them. Such a "result" is conceptually implicated in our everyday ways of talking and thinking about our actions and does not require additional empirical confirmation.

Enriching Educational Applications

None of these criticisms necessarily invalidates the basic assumptions of SCT, but together, they raise serious questions concerning the precise ways in which these assumptions have been articulated and the kinds of inquiry that have been conducted on the bases of these formulations. Martin (2004) considers a variety of theoretical concerns and issues in the area of SCT and self-efficacy and proposes forms of educational inquiry and intervention that assume a reconfigured model of the ways in which human actions and capabilities develop. He argues that a core difficulty that confronts SCT-based research and applications in education is the absence of an adequate developmental theory. To date, SCT research has focused on interactions between personal, behavioral, and environmental factors using designs that encourage the examination of a relatively narrow range of social and psychological interventions that can be examined in short-term, here-and-now exchanges in classrooms and elsewhere (e.g., the modeling of desired behavior or the teaching of self-instructional strategies to enhance self-efficacy). A much-needed extension would see greater emphasis on longer-term, longitudinal, and developmental designs for both research and intervention. Instead of assuming that social environments in homes or schools consist only of the behaviors of others that can be readily manipulated as independent factors in traditional psychological research, longitudinal, qualitative, and developmental inquiry might examine ways in which the social and cultural traditions, routines, and forms of life and learning practiced in homes and schools help constitute self and other understandings and interactions. This change could encourage greater creativity in the construction of classroom environments and interactions that encourage the full participation of students in learning activities that embed them within problem contexts, strategies, and practices that help constitute their emerging identities as young writers, scientists, mathematicians, and socially responsible citizens (in the manner envisioned by Vygotsky and other sociocultural activity theorists, see van Oers, Wardekken, Elbers, & van der Veer, 2008).

Conclusions

SCT is one of the most promising of all psychological theories in terms of its potential for enhancing the learning experiences of students in schools. The social and observational learning it illuminates

rightly deserve the close attention of educational theorists and practitioners. By critically examining and extending the basic model of triadic reciprocal determinism in ways that make SCT less prone to well-known conceptual and theoretical limitations and more creatively generative concerning developmental and educational contexts and possibilities, SCT should continue to inform the classroom practices of teachers concerned with the initiation of students into a full range of social and intellectual practices and accomplishment.

Jack Martin

See also Learning, Theories of; Metacognition; Motivation; Self-Regulated Learning; Stereotype Effects and Attributions: Inside and Out; Vygotsky, Lev

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Social Constructionism

Social constructionism was one of the most popular as well as one of the most controversial positions in late 20th-century social science. Fiercely debated, and both vilified as well as honored, the position has gradually "settled into the suburbs" as a fundamental and foundational position in the social sciences and education. This entry discusses several of the most influential forms of social constructionism in psychology and ends with an indication of how it has made an appearance in the educational literature.

Social Constructionism Versus Constructivism

Social constructionism can be understood as the thesis that many of the social realities (roles, rules, and relationships), the networks of beliefs about these that are transmitted to new generations, and also the public bodies of knowledge that we identify as the disciplines—all realities that we constantly interact with and that shape our lives—are not parts of an original, preexisting "furniture of the earth" that humans have discovered in nature but, in fact, are realities, regularities, or bodies of knowledge that are *constructed within societies by means of social processes*. It is important to distinguish this social constructionism from the more general concept of constructivism. The latter is a philosophical term with more general import going back to the 19th century and refers, at least in part, to the cognitive construction of knowledge. As such, it has roots in the work of John Dewey, Lev Vygotsky, Jean Piaget, and Jerome Bruner, among many others. In psychology, it is also associated with the personal construct psychology developed by George Kelly. In addition, there are elements of constructivism in contemporary cognitive psychology and cognitive neuropsychology. However, this broad position is both more general and less clearly delimited from a cognitive psychology of learning. Furthermore, it has little bearing on the notion of social constructionism. In educational contexts, constructivism is understood as a necessary step toward analyzing learning in context and the active construction of knowledge by the learner (this constructivism has generated a voluminous educational literature; see Phillips, 1995). Attempts to disambiguate constructivism from social constructionism are difficult, given that some authors also use the hybrid term *social constructivism* to refer to what is generally considered *constructivism*. It should also be noted that many authors use the terms *constructivism* and *constructionism* quite loosely. However, in the present discussion, the terms *constructivism* and *social constructionism* are strictly differentiated. This entry does not discuss the broader and alternative forms of constructivism but focuses instead on social constructionism.

Origins

Social constructionism as a thesis about the origins of social realities and bodies of social knowledge

about these realities originates with the well-known book by Peter Berger and Thomas Luckmann, *The Social Construction of Reality: A Treatise in the Sociology of Knowledge*, published in 1966. According to Berger and Luckmann and as the subtitle indicates, it was primarily an extension of work in the sociology of knowledge. However, the impact was broadly felt in many disciplines, including psychology and education. As Berger and Luckmann (1966) noted, "The sociology of knowledge is concerned with the analysis of the social construction of reality" (p. 15). Hence, although concerned ostensibly with what takes on the attributes of "knowledge" in any society, the authors were clear that they were extending the conception of "knowledge" from previous sociologies of knowledge, in particular that of Karl Mannheim. In Mannheim's *Ideology and Utopia* (1936), the sociology of knowledge was already extended to all aspects of human thought, particularly its ideological foundations. Berger and Luckmann (1966) further argued that "the sociology of knowledge must concern itself with everything that passes for 'knowledge' in society," including what people "'know' as 'reality' in their everyday, non- or pre-theoretical lives" (pp. 26–27). Two features of this are important. First, Berger and Luckmann explicitly attributed this insight to the work of Alfred Schütz, who had analyzed the structure of the commonsense world of everyday life. Second, they explicitly refused to deal with epistemological questions about the validity of this socially produced knowledge, claiming instead that their concern was with empirical questions that arose out of their analysis.

An examination of Chapter 2 in the *Social Construction of Reality*, titled "Social Interaction in Everyday Life," shows that Berger and Luckmann were deeply inspired by Schütz (under whom Luckmann had studied) and the latter's notion of "consociates," or those with whom we share time and spatial access, and "contemporaries," or those we know from anonymous sources such as news media. For Berger and Luckmann, this phenomenological conception of relationships is crucial to social structure since social structure is the sum total of consociates and contemporaries.

Social Constructionism in Psychology

Within psychology, both Rom Harré and Kenneth Gergen developed alternative social constructionist positions in the 1980s that were highly influential, even though Rom Harré does not consistently refer to his position by that name, frequently using the expression "second cognitive revolution" instead. Unlike Berger and Luckmann, neither Rom Harré nor Gergen uses *social constructionism* as a special term for a sociology of knowledge. Instead, their positions are broadly epistemological ones about the way in which features of the world can be known.

Rom Harré (1983) has argued that the "primary human reality is persons in conversation" (p. 58). Many psychological phenomena can be viewed as properties of discourse. Thought itself, or the private use of symbolic systems, is also derived from discursive processes. Human development must occur through the transfer of rules and conventions that govern public conversation and other social practices. Finally, "the production of psychological phenomena, such as emotions, decisions, attitudes, personality displays, and so on, in discourse depends on the skill of actors, their relative moral standing in the community, and the story lines that unfold" (Harré & Gillett, 1994, p. 27). By this, Rom Harré means that human beings are physical and social beings—we are physical beings because we are embodied, and we are social beings because we must appropriate the necessary conventions, norms, and mores from language to make us members of a particular social group. For Rom Harré, this is a realist social constructionism; both our physical being and our social being are rooted in the real properties of biology and conversation.

In 1985, Gergen published his well-known article "The Social Constructionist Movement in Modern Psychology" in the *American Psychologist*. His particular version of social constructionism moved radically beyond Rom Harré's, primarily by denying the reference to reality and also by allocating to constructionism a different goal: In an oft-repeated phrase, Gergen argued that social constructionism "begins with radical doubt in the taken-for-granted world—whether in the sciences or daily life—and in a specialized way acts as a form of social criticism" (p. 267). Appealing to a variety of philosophies of science as well as a range of critical scholars, Gergen argued that any number of standard accounts of psychological disorders, beliefs, and other phenomena are not "objective" but are "highly circumscribed by culture, history, or social context or altogether nonexistent" (p. 267). This distanced Gergen's conception of social constructionism from those that preceded it, not only Rom Harré's but also that of Berger and Luckmann.

In addition, Gergen noted that the "terms in which the world is understood are social artifacts, products of historically situated interchanges among people" (p. 267). Giving various ethnographic and anthropological examples, Gergen argued that these "direct our attention to the social, moral, political and economic institutions that sustain and are supported by current assumptions about human activity" (pp. 267–268). Perhaps most controversially, Gergen (1985) claimed,

> The degree to which a given form of understanding prevails or is sustained across time is not fundamentally dependent on the empirical validity of the perspective in question, but on the vicissitudes of social processes (e.g., communication, negotiation, conflict, rhetoric). (p. 268)

Recognizing that people may "eschew" constructionism for what appears to be its rampant relativism, it is nonetheless not possible to furnish objective foundations for knowledge. Defending this by reference to "communities of shared intelligibility," Gergen was careful to note that not anything goes.

Gergen had moved some way from Berger and Luckmann, who played a very minor role in his formulation. Instead, constructionism is given its historical pedigree by placing it not in the tradition of Husserl, Schütz, and Berger and Luckmann but rather in what Gergen calls the "exogenic-endogenic antinomy" (p. 269). That is, constructionism comes out of a struggle to understand the crucial features of human life as external or internal and thus is the outcome of a long history of philosophical, social, and psychological thought. It thus transforms social constructionism from a thesis about knowledge to a social and psychological theory, a burden that would turn out to be difficult for social constructionism to bear, particularly since it did not have the superstructure to support such a broad social and psychological theory. The emphasis on language, discourse, and the constructive nature of discourse was foundational for a social constructionist account on Gergen's terms, and knowledge and social action were thoroughly intertwined.

Gergen has continued to elaborate his version of social constructionism through numerous books and articles and more recently by developing a "relational psychology"—although it is not always clear if the latter is meant as an elaboration of a social constructionist position or is a new direction in his thought.

Psychology has also produced numerous other forms of social constructionism, which has taken the overall project in numerous directions. For example, John Shotter's characterization of social constructionism was concerned with two important characteristics of human social life, joint action and knowing from within. Joint action is "neither just human action or just natural event" (Shotter, 1993, p. 4). Instead, it comes out of "a sense of what is felt and required in interactions, such as conversations, where actions are determined not by rules or laws but by the unfolding responses and activities of moment-by-moment events." Furthermore, joint action is developed from "within the activities of participants" who make sense of their activities. This gives way to a kind of knowledge that emerges from within joint action, "knowledge of a moral kind," and hence, this is a third kind of knowledge or "knowing from within" (Shotter, 1993, pp. 5–7) to differentiate it from "knowing how" and "knowing that." This too is a further development of a social constructionist project along the lines of a neo-Vygotskian alternative psychology.

In addition, there are versions of social constructionism among those who pursue studies in discourse analysis—for example, the earlier work of Jonathan Potter and Margaret Wetherell—that mirror a number of these later developments in social constructionism. Among those who study the uses of language, talk is viewed as a situated and occasioned construction, a move that opened up a whole range of possibilities for the analysis of everyday talk. Feminist social constructionism, as developed by scholars such as Mary Gergen or Rhoda Unger, has taken up the relation between essentialist gender categories and the manner in which they make resistance or change possible.

Social Constructionism and Education

It has often been noted that education is the process by which a society reproduces itself—and it does this in large part by passing on to members of the rising generation the social knowledge that they must have to navigate the roles, rules, and relationships that make their society what it is. However, these social realities are usually treated as if they were immutable and objective, rather than human-made and debatable—and thus social constructionism opens up a new perspective for educators of a more radical disposition. In this context, it can be noted that the philosopher Ian Hacking (1999) makes the point

that social constructionism is frequently critical of the status quo. It tends to hold that, as a starting point, "X need not have existed, or need not be at all as it is . . . X as it is at present, is not determined by the nature of things, it is not inevitable." However, some versions of social constructionism go further than Hacking's account, asserting that "X is quite bad as it is. We would be much better off if X were done away with, or at least radically transformed" (p. 6). Hence, social constructionist accounts of gender, race, the mind, the self, and so on are often critical accounts of current knowledge, aimed at transforming the status quo. In this vein, the educational and political theorist Michael Apple (1993) has pointed to the social processes that he believes have been responsible for constructing what he calls the "official knowledge" that is passed on via the school curriculum:

> It has been argued in considerable detail elsewhere that the selection and organization of knowledge in schools is an ideological process, one that serves the interests of particular classes and social groups. However, as I just noted, this does not mean that the entire corpus of school knowledge is a "mirror reflection of ruling class ideas, imposed in an unmediated and coercive manner." Instead, "the processes of cultural incorporation are dynamic, reflecting both continuities and contradictions of that dominant culture and the continual remaking and relegitimation of that culture's plausibility system." (pp. 55–56)

Kurt Danziger, in a review of the literature on the topic of social constructionism, noted that there is a "light" and a "dark" version. The "light" version merely claims that while the reigning orthodoxies of the day must be resisted, they are resisted for the sake of tolerance and openness to others. The "dark" version of social constructionism is concerned with relations of power that are embedded in all discursive relationships. Furthermore, "dark" social constructionists tend to privilege manifestations of power in the body and in structures of society. The influence of Michel Foucault is obvious on this latter version of social constructionism. Although Danziger's choice of terms (*light* vs. *dark*) is dramatic, it does highlight a tension that remains in various versions of social constructionism and that often plays out in debates about the nature and content of educational processes.

The explicit discussion of social constructionism as a force in psychology and elsewhere has moved into the background as social constructionism has either become taken for granted as a background to certain kinds of research such as discourse analysis or explicitly rejected and hence often no longer debated. In this way, the position is still very much present in certain areas of psychology while completely ignored in others. For two complete journal issues devoted to these questions, see Stam (2001, 2002).

Henderikus J. Stam

See also Apple, Michael; Critical Theory; Discourse Analysis; Edinburgh School of Sociology of Knowledge; Feminist Epistemology; Foucault, Michel; Radical Constructivism: Ernst von Glasersfeld

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Social Darwinism

Social Darwinism generally refers to a sociological paradigm that draws on evolutionary theories to explain societal and racial development, progression, and stratification. Emerging in the late 19th century, it played a highly influential role throughout the development of Western thought and popular culture until the 1940s. Although now discarded due to its outdated evolutionary theories and associations with racist, sexist, and imperialist ideologies, remnants of social Darwinism continue to surface—for example, in contemporary debates on education and welfare reform and in popular texts like Richard Herrnstein's and Charles Murray's *The Bell Curve* (1994). While social Darwinism has historically lent itself to applications that span the left–right political spectrum, politically leftist versions of it (i.e., the application of evolutionary theories to argue for egalitarian political–economic systems) have been forgotten in contemporary usages and popular conceptions. Examples of leftist versions include the anarchist philosopher Peter Kropotkin's *Mutual Aid: A Factor of Evolution* (1902) and the novelist Jack London's *The People of the Abyss* (1903).

Origins and Basic Premises

Social Darwinism evolved from 18th- and 19th-century intellectual environments and debates concerning the ontology of the natural and social world and draws on a number of influential theories including Isaac Newton's laws of motion, Thomas Malthus's utilitarianism, Georg W. F. Hegel's idealism, and Auguste Comte's positivist sociology.

However, its organic evolutionary accounts mostly stem from the works of the French biologist Jean-Baptiste Lamarck (1744–1829) and the English naturalist Charles Darwin (1809–1882). These consist of Lamarck's contentions that environmental pressures force organisms to acclimate by developing physiological modifications throughout their lifetimes, which are then passed down to succeeding offspring. This constitutes the *inheritance of acquired characteristics* hypothesis, which postulates that organisms have some agency over their adaptations that can, for example, come from the use or disuse of organs. Continuous adaptations over time drove simple animals to become more complex, and evolution is thus a progressive linear process following a continuum of increasing complexity and perfectibility. Darwin's indirect contributions came from select premises of his theory of natural selection, which include the following: population growth in the natural world forces organisms to compete for scarce resources; those with spontaneously developed mental and physical traits that grant advantages in survival and reproduction rates can, through genetic inheritance, pass on those traits to succeeding generations; the gradual and accumulative effects of selection and inheritance, over time, results in the ascendance of new species and extinction of others (Hawkins, 1997).

On their own, these evolutionary accounts are purely descriptive, subject to scientific investigation, and those who held or expounded them were not necessarily social Darwinists. However, when amalgamated with the following ideologically flexible premise, they form the basic descriptive and normative components of the social Darwinian framework: The biological laws that determine organic evolution also determine sociocultural evolution, and therefore, societies and individuals should enact norms and values that reflect those found in nature to facilitate the progression of humanity into more advanced and harmonious social and natural environmental settings.

Political–Economic Implications

This framework provided social Darwinists of all political orientations with scientific explanations of how the world came to be—natural selection—while preserving their own agentic capacities to shape the world as is ought to be—that is, via artificial selection and transmission of acquired characteristics. As stated earlier, leftist social Darwinists also drew on this framework to argue for socialist systems that can help progress humanity into a more harmonious and egalitarian existence. However, much of what is today popularly understood as social Darwinism can be attributed to the works of the English sociologist Herbert Spencer (1820–1903), who coined the phrase most synonymous with social Darwinism—"survival of the fittest."

Reflecting the hubris of 19th-century Western imperialism, Spencer's social Darwinism synthesized Lamarckian and Darwinian theories and integrated them with racist and laissez-faire economic ideologies to argue that racial and social stratification were natural by-products of evolution (Spencer, 1884/1960). According to this synthesis,

as humanity evolved through the competitive struggle for scarce resources, the corresponding warfare led to the formation of groups and societies. The selective pressures of continuous warfare eventually led Western European groups and their descendants to develop superior cognitive and cultural adaptations, which resulted in their hegemony over non-European groups.

Furthermore, as societies became more peaceful and cooperative, and individuals more rational and altruistic, the checks and selective pressures on human population growth induced by war were gradually lifted and replaced by industry and free-market capitalism. Spencer believed that unregulated capitalism mimicked the competitive and evolutionary mechanisms of natural selection at the inter- and intragroup levels and generated character traits such as rationality, self-reliance, and an appreciation for individual liberty necessary to further social evolution. Those individuals who naturally held these traits as a result of their pedigree, as evident in their wealth and high social status, or who could otherwise develop them by adopting a strong work ethic and self-reliance, were deemed the most fit for survival. Individuals who naturally lacked or otherwise failed to adopt these traits would inevitably die off. Public charities and government regulations (including child labor laws, taxation to fund public schools, and antipoverty programs) that provided resources to anyone based on need rather than character were viewed by Spencer as well-intentioned but wasted efforts that consequently constrain individual liberty and effort, reward laziness and vice, and postpone the suffering and extinction of the unfit. Instead of diminishing suffering, it eventually increases it. It favors the multiplication of those worst fitted for existence and, by consequence, hinders the multiplication of those best fitted for existence—leaving, as it does, less room for them (Spencer, 1851, p. 381).

Although Spencer believed that natural and market mechanisms would inevitably eliminate the unfit, thus rendering direct intervention unnecessary, prominent figures like the English statistician Francis Galton (1822–1911) took Spencer's ideas to their logical conclusion and argued for eugenics programs that monetarily incentivize those deemed to have superior genetic makeup to marry and reproduce and disincentivize those of weaker stock from reproducing. These ideas inspired laws across 33 U.S. states that allowed for the forced sterilization of women who were considered feebleminded or who demonstrated other "degenerate" characteristics that were considered likely to be passed onto their children. Similar policies were initiated throughout the world during the first half of the 20th century, the most extreme of which was implemented by the Nazis during the Holocaust.

Because of this sordid history, very few would today argue for the political application of explicitly social Darwinist ideas. However, Spencer's social Darwinism and its "survival of the fittest" discourse endures and can be found in contemporary neoliberal policies that eliminate, cut funding for, and/or allow for the privatization of social services and public institutions and that are premised on the belief that competitive market mechanisms will allow societies to progress and solve all of their ills.

Common Misnomers

Spencer's social Darwinism has also contributed to popular misconceptions of classical liberal and Darwinian theories. With regard to the former, its political–economic components are typically linked to the ideas of classical liberals, like Adam Smith (1723–1790), who viewed self-interestedness as a dominant human disposition, which if channeled through unrestricted markets can lead to creative and socially beneficial outcomes. Smith also emphasized, however, that humans are equally cooperative and empathetic, and therefore, his arguments for unrestricted markets rested on the notion that cooperative, empathetic, and self-interested human dispositions and practices would balance each other out and promote social equality among all of humanity (Werhane, 1991). In this context, Spencer's social Darwinism and its emphasis on individualism and cutthroat competition is more reflective of Thomas Hobbes's state-of-nature ontology than of classical liberalism.

On the latter, the general social Darwinian premise that equates evolution with progress is borrowed from Lamarck, not Darwin. Most contemporary evolutionary theorists favor the Darwinian branching view of evolution, which has no specific trajectory, and which argues that local adaptations to changing environments can vary in complexity; in other words, that natural selection leads to the "survival of the fit enough." Darwin himself abstained from applying his theories to the sociopolitical realm, and as the evolutionary biologist Stephen Gould (1992) argues, natural selection offers no

general political applicability for those who view progress as innate.

Rodolfo Leyva

See also Bell Curve; Evolution and Educational Psychology; Liberalism; Spencer, Herbert

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Social Reconstruction

The historical context of social reconstruction is set within the decades of the 1920s and 1930s. The excesses of capitalism, which included the alienation of workers, labor strife, ostentatious wealth, and inflated securities, all of which occurred in the 1920s, thundered to a halt following the stock market crash of 1929. Within this historical context, some educationists sought reform of what they believed to be a political and economic system run amok and one that perpetuated social inequality. The social and economic mess created by capitalists and those who supported them could only be ameliorated through a sound program of educational reform—or at least this was the belief of many progressive and social reconstructionist educators. The excesses of the 1920s and the financial crisis of the 1930s became a common theme repeated by leading social reconstructionists and progressives such as George Counts, Theodore Brameld, and Harold Rugg at the annual meetings of the National Education Association (NEA) throughout the early 1930s. Historians of American education identify George S. Counts (1889–1974) as being founder of the social reconstruction movement and as being the most radical, albeit Theodore Brameld is also credited by many as having this status. This discrepancy may be related to each of these educational philosophers' experience with Marxist thought. This entry traces the roots of social reconstruction in the reform movements of the Progressive Era; follows the careers of Counts, Brameld, and Rugg and their respective contributions to educational reform and social reconstructionist theory; and places their efforts within the context of responses given by outspoken conservative voices and leaders of corporate and social organizations to the notion of educators as agents of social change.

Historical Background

Far from simply being an educational reform, social reconstruction as a theory, and later as a philosophy, incorporated both economic and political reforms in its agenda, as evidenced by the 1934 "Rugg Report," delivered at the biannual meeting of the NEA. As a reform movement, social reconstruction is located under the umbrella of progressivism. Throughout the 1920s and 1930s, nearly every sector of American life claimed membership in the progressive movement—social welfare, the news industry, banking and finance, government, and of course, education. However, progressive educators were far more interested in the child-centered movement as an avenue for change in society than were the social reconstructionists.

To progressive educators, if children's interests were developed alongside elements of active citizenship, then they would be more likely to reform their immediate world as future needs arose. Social reconstructionists, on the other hand, were more direct in their approach to social change. These differences would lead prominent social reconstructionists such as Counts, Rugg, and Brameld to separate themselves and their ideas from the rank-and-file progressives. For social reconstructionist leaders, as well as their fellow educators from the elementary school to the university campus, efficiency (which their critics called indoctrination) played a central role in the nascent social reconstruction philosophy of the 1920s, which was later put into print in 1934 in the form of the 1934 Rugg Committee Report to the NEA.

Discourse on Discrepancy: Counts or Brameld?

For many, it may not be important to know whether Counts or Brameld was the most radical of the

social reconstructionists. What may be of significance, however, is why academics believe that one or the other stood out as being the most radical. The "why" is based on assumptions about the political loyalty of all three leading social reconstructionists, which included Rugg. When the United States and the Western world experienced catastrophic losses in World War I, and a new economic system was ushered in by the Bolshevik Revolution in Russia, Counts championed the core idea of social reconstruction, namely, that schools and teachers should be agencies for social change. Counts has often been portrayed as the most radical in the social reconstructionist camp, probably because he readily embraced the concept of social and economic equality, which in the 1920s he believed was best conveyed by the intelligentsia of the Bolshevik Revolution, who had called for a sweeping redistribution of wealth and power on behalf of the workers and peasants against the monarchy of Czarist Russia. Counts was criticized by fellow academics, political luminaries, and industrial barons for flirting with tenets of the new economic and political system in what became the Soviet Union.

Undaunted, Counts advanced his position on social reconstruction with his now famous 1932 address to the NEA titled "Dare the School Build a New Social Order," in which he outlined his reconciliation of cultural transmission with social critique as purposes of education. This call to change the purpose of schools from transmission of cultural knowledge and heritage to one of social reform—a call that directed teachers to foster in their students the skills of critical examination of social conditions and how to solve them—raised the ire of many. Hence, Counts, as an early leader of social reconstruction, was viewed by many as unpatriotic. Patriotic groups such as the Daughters of the American Revolution and the American Legion took exception to social reconstructionist ideas with respect to what their members believed was a thinly veiled effort to expose American children to the glories of socialism or communism. Industrial and business groups such as the National Association of Manufacturers, believing that social reconstruction was an attack on free enterprise, also contributed to the antisocial reconstructionist chorus.

The real Marxist voice within the social reconstructionist camp, however, was Brameld. Social reconstruction as a branch of progressivism suited activist-minded educators who dedicated themselves to righting what they regarded as the wrongs of America's capitalist experiment. Brameld was one of the social reconstructionist educators whose proclivity toward politics was matched by zeal for social reform; he coined the slogan "education as power" (Wheeler, 1967, p. 11) and was described by Howard M. Ozmon (1966) as "the most outstanding Reconstructionist in American Education at the present time" (p. 186).

As a student at the University of Chicago, Brameld studied with the well-known and highly regarded American progressive philosopher and politician T. V. Smith. Additionally, he was well versed in early 20th-century Russian social political and intellectual thought. As a junior colleague of Counts and Rugg, Brameld—due to his deep interest in Marxist ideology—recast the direction of social reconstruction to incorporate an economic examination of American life. In his 1935 article in *The Social Frontier*, "Karl Marx and the American Teacher," his interest in class struggle and economic critique of American education leaves little doubt about his position. That Brameld embraced the problem of social reconstruction as a global one spoke to his belief that "the world's" problems of social, political, and economic inequality are by-products of the post-Renaissance world, which he viewed as ushering in an era of unbridled individualism. Brameld's keen interest in globalism and internationalism along with his early education in Marxist theory and history convinced many that he was a closet communist and radical.

Harold Rugg and the 1934 Report to the NEA

Harold Rugg was perhaps the most colorful of the social reconstructionists. His earthy communication style put him in touch with folks in higher education as well as with the average teacher. Trained as an engineer, Rugg always gravitated to problem-solving endeavors, and he applied his background to education. At the height of America's economic plight following the collapse of the stock market in 1929, Rugg published a series of textbooks designed to teach students how to examine social life and how to rectify the problems that they had identified. His books could be found in scores of secondary school libraries across the land. Their content—far from containing radical ideas—was actually straightforward, with photographs depicting a family in poverty and asking students to explain the cycle of poverty and how this might be changed.

An examination of any of the Rugg textbooks will reveal that, if anything, he was a patriot. Yet his books disappeared from library shelves as quickly as they were placed on them when critics such as the American Legion launched an attack on his motives for writing what they called unpatriotic literature designed to poison the minds of America's youth against capitalism. In the end, it is Rugg whose reputation has never been rehabilitated despite the fact that his counterparts, Counts and Brameld, had far more interest in Marxism and communism than did Rugg, who by all accounts was loyal to the United States, as evidenced in his writings. In terms of his specific contribution to social reconstructionist theory, Rugg was the chief architect of a written philosophy of social reconstruction, a fact unknown to many educators even today.

This "written philosophy" of social reconstruction can be found in Rugg's 1934 report to the NEA. Six months before the July 1934 meeting in Washington, D.C., the Department of Superintendence of the NEA held its winter meeting in Cleveland, Ohio, where Rugg delivered a committee report on the economic and social conditions of the United States and offered recommendations for solutions. The contents of the Rugg report outlined what NEA educators had been discussing for more than three years—disillusionment with unbridled capitalism and the social inequities it produced. In fact, even a cursory look at the 1934 NEA proceedings demonstrates the degree to which educators concerned themselves with the then current crisis of the Depression. What faced the American public in light of the economic crisis was school closings and the threat of federal control over the nation's schools.

The NEA membership was prepared to take up the sword of battle and charge into the fray with enthusiasm and high purpose. One speaker after another pointed to the then current economic mess. In their view, business had had its day in the sun, now it was education's turn; the situation would turn around after a few generations of educating for social justice. After all, those at the helm throughout the 1920s had managed to squander material resources and create economic disparity and disharmony. Through scientific planning, which included surveying the social, economic, and political landscape for the purpose of determining a proper course of action that was fair to all, the United States would once again take its place as a beacon of light. The list of changes was robust and a threat to America's long-standing social order.

In hindsight, the groundswell of support needed for such radical changes was lacking. The economic collapse in 1929 had ushered in great despair and uncertainty; the idea that the nation's teachers could lead generations of students to critically examine social, economic, and political problems with an eye toward reducing economic folly and social inequity seems lofty from a distance of 70 years. However, one must recall the times and the progressive spirit that swept the nation both prior to and after the economic disaster of 1929. Americans in all walks of life believed that the times called for fundamental changes. Hence, when educators met for the NEA's annual meeting in 1934, they were confident in their plans for change. Speakers from John K. Norton to John Dewey made it clear that New Deal policies and programs should include schools and teachers. For their part, congressional leaders, who were called on to sustain the schools through the economic crisis, made it clear that federal aid did not mean federal aid forever. In the middle of this mix was the conservative voice represented by groups such as the American Legion and Daughters of the American Revolution whose self-appointed role was to hold the social framework together until the storm subsided. Once the storm did pass, these conservative groups and others worked throughout the 1940s and 1950s to ensure that educators understood their role—which was not to be agents of change.

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See also Dewey, John; Marx, Karl; Progressive Education and Its Critics

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Social Systems Theory: Talcott Parsons and Niklas Luhmann

Socialization and education—and the similarities and differences between the two processes—were of interest even to the early social sciences. For many founding figures, socialization theory was at the core of social theory, and there was a tendency for education to be conceptualized as a particular type of socialization. The concept of socialization/education contributed to the overall orientation of classical sociology on structural stability. Until the 1960s, this discipline predominantly focused on the communication of social experiences to the younger generations and on the transmission of culture, norms, and value orientations. Only in the latter part of the 20th century did the concept of socialization/education lose its central theoretical position—both as a consequence of increased scholarly concern with processes of change and transition and of strong empirically based reactions against what had come to be seen as sociology's "oversocialized conception" of humans.

This evolution is also found within the tradition of social systems theory. Talcott Parsons (1902–1979) and Niklas Luhmann (1927–1998) are among the most distinguished contributors to this research tradition, which puts much stress on the relations between particular systems and their environments. Both Parsons and Luhmann have made a number of original contributions to the conceptualization and analysis of socialization and education (often in notoriously difficult prose). But whereas for Talcott Parsons the focus was on value inculcation and "socialization to the grounds of consensus," Niklas Luhmann pointed time and again to the improbability of the reliable reproduction of cognitive and normative expectations. In Luhmann's theory of society, therefore, socialization could not be of central importance.

Talcott Parsons

According to Parsons, societies are in need of a broadly shared and internally coherent system of norms and value orientations to be able to maintain themselves. Without this normative system, social cooperation would not be possible and social systems would disintegrate. The stability of the normative system of order—which Parsons called a structural imperative—"explained" several social processes. It was used to define the function of socialization and education.

> The maintenance of a normative order requires that it be implemented in a variety of respects: there must be very considerable—even if often quite incomplete—compliance with the behavioral expectations established by the values and norms. The most basic condition of such compliance is the internalization of a society's values and norms by its members, for such socialization underlies the consensual basis of a societal community. (Parsons, 1966, p. 14)

In this regard, both the family and the school class perform an instrumental role for society at large; their function is to transmit this normative structure to new generations and thus ensure a value consensus.

The distinction between socialization and education can be understood against this background. While socialization is limited by the stimuli of the socializing context, education strives for a particular, "unusual" output. Education is action that is intentionalized; it aims to attain something that cannot be left to chance socializing events, something that presupposes coordinating a plurality of efforts. The modes of behavior that one would like to achieve are defined; the situation from which one begins is evaluated (grade level, ability, previous learning experiences); the pedagogical means to achieve what could not occur by itself are chosen. The current large-scale organization of learning situations, school classes, and school systems is only the application of this principle. For societies, socialization suffices as long as social mobility and internal complexity are low. But once a relatively high degree

of complexity is reached, they cannot seem to avoid going beyond mere socialization and mere ad hoc education. Only thus can they reproduce complex forms of knowledge, values, and skills. Only thus can they facilitate processes of specialization and the distribution of roles on the basis of specialization.

Parsons primarily discussed the intentional, explicit inculcation of values and norms. Building on Robert Merton's distinction between manifest and latent functions/structures, the concept of the *hidden curriculum* was later also put to use in this theoretical context. This concept, hidden curriculum, defines a contrast between the expressed or manifest purposes of the official curriculum and the latent functions of the system, which are fulfilled alongside the official curriculum. Accordingly, the hidden curriculum is promulgated by the way schools are organized and operated as much as by explicit teaching methods and content. As such, this concept presupposes a high degree of structural determination of the educational process. It focuses on social and cultural stability, on the transmission of the existing culture, norms, and value orientations to the next generations. Hitherto, however, empirical research has not been able to provide unambiguous evidence about the existence of such structural correspondences between education and the dominant structures and value orientations of modern society.

Niklas Luhmann

For Luhmann, socialization played an ambiguous role within society. As did others, Luhmann criticized Parsons's "oversocialized view" of humans, and he distinguished more clearly between social systems and psychic systems (human beings).

Luhmann depicted socialization as a kind of "order from noise" phenomenon—but even intentional forms of socialization, such as education, cannot ensure that human beings adapt to their social environment in the ways intended. Socialization, for Luhmann, refers to the interplay between social and what he calls psychic systems; it is not the inculcation of societal values and norms, nor the realization of individual talents. How a human being develops, how her "possible world" changes, depends on the social systems in which she is involved (family, peer group, school class, etc.). Selection of individual possibilities occurs within social systems (and possibilities that are not selected will probably waste away); but on the other hand, participation in social systems also creates additional opportunities for persons. Socialization always depends on what social interaction allows—concrete patterns of social interaction create the difference between possibility and reality, and it is this difference that constitutes the effect of socialization and education.

In modern society, school education reinforces some related distinctions, such as good/wrong, praise/reprimand, and succeed/fail. Educational practices lead to differences; they indicate lines of success and thereby establish the possibility of failure. Despite good intentions, "they transform equality into inequality. They motivate and discourage. They link experiences of success to experiences of success and experiences of failure to experiences of failure" (Luhmann, 1995, p. 207). With Luhmann, we might ask how children react when they are constantly confronted with this option and when they are constantly pressed to conform to their parents' and teachers' expectations. In our postmodern, individualistic society, it makes sense to assume that they will look for some kind of "opting-out" strategy—deviating from normal expectations offers the best opportunities to display one's individuality. They may react with unexpectedly good performance, with nonchalance vis-à-vis evaluation criteria, with humor and irony, with cynicism and sarcasm, with the cultivation of a deviant school or youth subculture, with alternative assessments of qualities and personal merits, and so forth. In other words, classroom education enforces a choice between adaptation and deviance. But it does not (have to) lead to social reproduction.

Seen in this light, it should not come as a surprise that the (traditional) concept of socialization plays only a marginal role in Luhmann's work. It is hardly referred to in the monographs, in which he presented the building blocks of his systems-theoretical framework. Moreover, Luhmann's interpretations of socialization and education are connected with a rather pessimistic outlook on the future of the society we are now all familiar with. The dominant or primary social systems in modern society do not support one another; the opportunities that our contemporary society generate, especially in the field of education, might endanger its own structural characteristics. In short, given the way we currently organize processes of socialization and education, modern society might become a victim of itself.

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See also Complexity Theory; Hidden Curriculum; Loose Coupling; Modernization Theory; Socialization

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SOCIALIZATION

Socialization refers to how new members of a group are assisted by older members to take over or internalize the values and standards of that group so that eventually they will become functioning members of it. The initial and most important socialization experiences take place in the family, where parents are responsible for ensuring that their children are able to function independently in the wider social context, outside the protective cocoon of home. Socialization continues, however, throughout the life span as individuals find themselves in new settings, with some new norms needing to be learned—those of the peer group, the work place, marriage and family, and older age, for example. This entry will focus on primary socialization in the family, describing the various domains in which socialization occurs, and it will also give an account of the efforts of researchers, particularly psychologists, to understand how these domains function. The entry will not attempt to demarcate socialization from the closely related process of education; some writers treat the terms *socialization* and *education* almost as synonyms; others treat education as a special type of socialization; and some see the difference between the two being that education is consciously engaged in and its aims are or can be explicitly stated and manipulated, whereas socialization often can take place without the agents or subjects of it being aware.

The process of socialization does not involve the incorporation of, or wholesale adoption of, the values of others. Although this position was advanced by psychoanalytic theorists who characterized parental values as being introjected, research has made it clear that children are active in the socialization process. They accept or reject parent teaching and even, on occasion, successfully modify parents' own values.

Evolutionary, Genetic, and Socialization Interactions

The impact of socialization practices is determined to a considerable extent by the way the human species has evolved: Over the course of evolutionary history, human beings have developed certain predispositions, and these predispositions determine the relative ease with which different beliefs, values, or behaviors can be instilled. For example, humans have evolved to need physical contact and comfort from a protective caregiver as a way of coping with distress and anxiety, and experiences in this domain have been argued to be an important, if not the most important, foundation of social development and socialization. The evolved need to be part of a social in-group is another feature that makes children particularly willing to model their behavior after that of other members of the group.

In addition to genetic features shared in common, there are also individual differences in genetic makeup—and a considerable body of research indicates that these genetic features and socialization experiences interact in determining children's development. Much of the focus has been on interactions of parenting with temperament, the latter a biologically based proclivity of the child that includes behavioral features such as level of ability to adjust to routines and deal with frustration, degree of fearfulness and timidity, and the capacity to self-regulate emotion. Many studies have indicated that children with problem temperaments are more negatively affected by adverse parenting (e.g., highly controlling, rejecting, and hostile) than those with more benign temperaments. There is a tendency for children with problem temperaments who have experienced harsh parenting, for example, to be more aggressive and noncompliant than children with easy temperaments who have been exposed to similar levels of parent harshness. The study of interactions has been extended to an identification of genes associated, for example, with aggression and sensation seeking, as well as with anxiety and depression: Again, children with these genetic markers are more adversely affected by maladaptive parenting than are children without the markers. Recently, it has been suggested that children with problematic characteristics are not only more likely to be adversely affected by negative parenting but may also be more

positively affected by good forms of parenting. In other words, children are differentially susceptible to both positive and negative aspects of parenting, with some more easily influenced by both kinds of parenting than others.

The existence of individual differences in reactions to socialization strategies underlines the fact that these strategies must be tailored to the child's characteristics. Children respond somewhat differently to the same approach, and so there is no single strategy that works for everyone. Therefore, effective agents of socialization have to know how their children will respond and tailor their interventions accordingly. Researchers use terms such as authoritarian, authoritative, warm, responsive, and punitive, and on average, these terms are useful in describing dimensions of socialization. However, there is variation in reactions to these characteristics of parenting—for example, in what is perceived by an individual child to be warm or punitive. This variation is determined not only by genetic differences described above but by variables such as the child's age, sex, past history of socialization, and comparisons with the way others are treated. Thus, it is the meaning a child assigns to a socialization strategy that becomes central in determining its effect.

Domains of Socialization

There are different approaches to socialization, described below. Most would agree that an important component of each is the existence of a warm and accepting relationship between child and parent. Thus, the context in which a socialization strategy is employed has considerable impact on its effectiveness.

Control

Most research has focused on children's misbehavior, that is, when parent and child are in conflict, with the child wanting to engage in what the parent considers an antisocial or unacceptable action. Because parents have access to more physical and psychological resources than the child, they are in a position to impose consequences for misbehavior. There have been two somewhat different approaches to the study of discipline, although they are certainly complementary. One approach focuses on parenting styles and the other on discipline strategies.

Parenting Styles

In the 1960s, Diana Baumrind proposed a distinction between two parenting styles—authoritarian and authoritative, a distinction that continues to guide the thinking of socialization theorists today. Both styles involve control, but in the case of authoritarian parenting, the control is rigid and unyielding—children are offered no choice, punishment levels are high, and no explanation is offered for why their behavior should change. In contrast, with authoritative parenting, the control is firm—limits for acceptable behavior are set, but parents are responsive and sensitive to the needs and reasonable wishes of their children. This form of control is confrontive, in the sense that punishment for misdeeds is salient, but children's autonomy is not threatened because they can choose to comply or not comply and negotiated outcomes are a possibility. Additionally, authoritative parents tend to be high in warmth and acceptance of their children and less hostile and rejecting. Authoritative parents are more successful than authoritarian parents as agents of socialization, particularly in Western European cultural contexts where authoritarian parenting is less accepted and more likely to be associated with rejection, and where individual autonomy is highly valued.

Other forms of control have been proposed, specifically behavioral control and psychological control. The first involves setting of rules, regulations, and restrictions as well as monitoring of the child's actions through inquiry and observation. The second refers to control that undermines the child's autonomy and includes intrusiveness, guilt induction, and love withdrawal, as well as lack of responsiveness to the child's psychological needs. Not surprisingly, the outcomes for the child of psychological control are more frequently (although not always) negative, whereas those of behavioral control are positive.

Discipline Strategies

The second approach to understanding how children's antisocial actions can be modified involves the study of discipline strategies, that is, the use of disapproval, withdrawal of material rewards, and physical punishment. Here the research indicates that parents who use minimal amounts of punishment—enough to gain the child's attention and encourage compliance—and who couple it with explanation will be most successful. Another focus of researchers who study discipline strategies is physical punishment, with cultural studies suggesting that corporal punishment is somewhat less detrimental in its effects in countries where its use is seen as more

normative and acceptable and where it is not a sign of parental rejection.

Although most research on control has focused on children's misdeeds, parents also use their control of resources to reward positive social behavior. Although this seems a better way of encouraging prosocial action, it can have unexpected negative outcomes. Thus, conditional positive regard, that is, the making of approval contingent on particular actions, can undermine the child's sense of autonomy and feelings that these actions have been freely chosen.

Protection

Frequently cited as the cornerstone of socialization, the relationship between caregiver/protector and child is central to the socialization process. Attachment theory as developed by John Bowlby and Mary Ainsworth has as a central tenet that caregivers who are responsive to their children's distress and safety needs have children who feel secure. These children learn to regulate their own distress, to feel empathy for the distress of others, and to trust that the caregiver's requests for compliance with societal norms are in their own best interests.

Mutual Reciprocity

The association between responsiveness to the child's needs and the child's compliance is assumed by attachment theorists to be mediated by the child's secure attachment. However, responsiveness and compliance can also occur outside a situation involving distress, calling on the inborn tendency of humans to reciprocate the actions of others. When parents comply with children's reasonable requests (e.g., to play), their children, in turn, have been shown to be more likely to comply with their parents' requests. Thus, a system of willing cooperation and shared common goals is set up, and socialization can occur in the absence of conflict or distress.

Group Participation

Albert Bandura and Richard Walters argued many years ago that the primary form of learning for social animals was not through experiencing response consequences but through observation, that is, by watching others. Children learn to be aggressive, to be helpful, to resist temptation, or to value any number of behaviors simply by observing other people engaging in those actions and then reproducing them. The desire to be like others is seen in children's preference for members of their own group, their distress when they cannot reproduce the actions of the group, and their enjoyment when taking part in family and classroom rituals and routines. Particularly in cultures where there is no formal school system, children deliberately attend to the activities of adults to be able to participate in these activities, thereby gaining a sense of social identity. Indeed, learning through observation and ultimate participation leads to routinized and automatic actions, performed with little questioning.

Guided Learning

Children can be engaged in discussion of, or taught, values and norms independent of their own actions. Research has demonstrated the importance of teaching children by scaffolding their learning and working within what the psychologist Lev Vygotsky called their "zone of proximal development." Successful teachers adjust their guidance to the child's changing levels of skill and understanding, as well as select tasks that the child cannot yet perform independently but can master with the aid of someone who has greater experience. The importance of these features of guided learning is evident in attempts to facilitate moral reasoning where arguments that are just one stage above the child's present level are most successful.

Conclusion

Central to an understanding of socialization is the fact of differences between children in how they respond to similar socialization interventions. Within each of the domains described in this entry, children can assign different meanings that affect their reactions to parenting in that domain: What is comforting to one child is not comforting to another, what is a zone of proximal development for one child is not for another. Socialization is a complex process. It is, however, an essential process for ensuring that individuals can function optimally in the various social groups they encounter throughout their lives.

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See also Adolescent Development; Education, Concept of; Social Systems Theory: Talcott Parsons and Niklas Luhmann; Vygotsky, Lev

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Sociology of Knowledge

See Edinburgh School of Sociology of Knowledge

Socrates and Socratic Dialogue

The historical figure Socrates is said to have lived in the period 470 to 399 BCE, in the city of Athens, Greece. Plato (427–347 BCE) immortalized his teacher, Socrates, in more than 30 dialogues, which feature the pedagogue in conversation with various interlocutors.

Scholars divide Plato's dialogues into three periods. Those belonging to the early period were written before Plato's first trip to Syracuse (388 BCE), when he was nearly 40 years old. These include *Apology*, *Crito*, *Protagoras*, and *Gorgias*. The middle-period dialogues were apparently composed between 388 and 367 BCE, the year of Plato's second trip to Syracuse, and these include *Meno*, *Symposium*, *Republic*, and *Theaetetus*. Dialogues from the later period include *Sophist*, *Statesman*, *Philebus*, and *Laws* and were written between 366 BCE and Plato's death. The early dialogues are often referred to as the "Socratic" dialogues, as Socrates is the central character in them.

This entry first examines some important characteristics of Socratic dialogues and then asks whether Socrates employed a single method throughout his teaching. Because the goals and questioning procedures he used varied with the subject and the interlocutor, the Socratic dialogues can best be seen as illustrating the virtues of dialogic teaching.

Characteristics of the Socratic Dialogues

The Socratic dialogues have notable characteristics. First, typically they begin when Socrates raises a question. The interlocutor responds with a statement that generally provokes a further question from Socrates, and so the conversation continues. Because they follow this format, and because those who are involved sometimes appear to learn things as they speak with one another, the Socratic dialogues provide the classic model of dialogical teaching and learning.

Second, the exchanges between the individuals in the dialogues have a particular character and, as a consequence, draw attention to the power of dialogical teaching. In fact, we may justifiably thank Plato, via Socrates, for showing us that dialogue may teach more effectively than monologue, at least in some circumstances. Indeed, the interchanges between Socrates and his interlocutors are not idle conversations about inconsequential topics. We see the characters engaged in serious reflection on challenging questions such as these: How is knowledge defined (*Theaetetus*)? Can virtue be taught (*Meno*)? What is the definition of justice (*Republic*)? Should one fear death (*Phaedo*)? Time and time again, the interlocutors, and sometimes Socrates himself, are forced to recant their claims in the face of failed arguments or endorse new claims in the face of convincing ones.

A third characteristic of Plato's Socratic dialogues is that they engage readers (or listeners) in the same kind of conversation that they are reading or hearing. Consider the case of *Phaedo*. As we read, we witness a dramatic moment in the life of Socrates, namely, his last gathering with some friends, at the end of which he drains the cup of hemlock. In reading or listening to it, we are drawn into the dialogue. Once there, we join the narrator on his perch, looking as he looks, questioning as he questions. We let him tell us about Socrates—about why he does what he does, about who he is. We live Socrates's last moments in the narrator's company. So situated, we raise questions about this powerful, moving teacher, his situation, his remarks, and ourselves. And we reflect on possible answers as if

we are in conversation with Socrates and are in the dialogue itself.

Goals of Socratic Dialogue

Because the Socratic dialogues engage us in questioning, not simply reading or listening to other people question one another, one might wonder whether Socrates follows a method by which he accomplishes this. Some argue that the "method" is that of elenchus—a form of argument in which first, a statement in answer to a question is given. Socrates then secures agreement to further premises. Next, he and his interlocutors agree that the further premises contradict the initial statement. Finally, they conclude that since the premises are true, the initial statement is false, or some such. However, while it may seem that Socrates follows the method of elenchus in his dialogues with others, this conclusion is far from self-evident. There is also the possibility that we, as readers or listeners, are compelled by the dialogues because *we* are drawn into following some method. Perhaps, then, there is no single "Socratic method" in the dialogues.

So, then, a closer look is required. To begin with, Socrates actually appears to have different aims in different dialogues, even across those attributed to the same period. One might argue, with Richard Robinson, that in the early- and some middle-period dialogues, Socrates aims at the moral reform of his interlocutors. Or one might argue that Socrates is not so much interested in reforming their morals as bringing them to a state of *aporia*, that is, to the point where they recognize that their beliefs are mistaken and that they are ignorant of what they thought that they knew. Such seems to be his goal with the slave boy in the *Meno*. At the outset of the conversation with Socrates, the boy believes something false, as the pedagogue demonstrates. When the slave finally admits that he does not know what he thought he knew (84a), Socrates tells Meno that the boy has "progressed." Here there is no evidence that the boy's moral behavior is, or was, wanting.

Then again, one might also argue, with Gregory Vlastos, that Socrates aims to "correct false beliefs, confused ideas, and wrong ways of thinking." For example, he seems eager to persuade Meno that learning proceeds by "recollecting"—by drawing ideas out of oneself that were heretofore unrecognized (see *Meno*, 84a–b). Socrates seems not to be content to see Meno acknowledge his false beliefs. Meno's celebrated paradox (*Meno,* 80d) states that if you already know the answer to the question you are asking, then nothing can be learned by asking; and if you do not know the answer, then you will not know what to look for. In response, Socrates persuades Meno that, contrary to Meno's claim that one cannot learn anything by asking questions, learning is possible because it proceeds by recollection.

Notice that neither of the aims mentioned by Robinson and Vlastos includes that of resolving the issues that motivate the conversation between Socrates and his interlocutors in the first place. In short, Socrates's aims seem to vary across the dialogues and answering the questions on the table seems not always to be the primary concern.

Next, let us consider the issue of procedure. Can Socrates be said to follow a procedure in the dialogues—a sequence of steps that he repeats again and again, such as those described by the elenchus? If one looks at Socrates as he questions Hippocrates on the effect of knowledge (*Protagoras*, 311b–414c), Polus on the greatest of all misfortunes (*Gorgias*, 469a–475e), or Theaetetus on the proposition that knowledge is perception (*Theaetetus*, 151e–164b), he seems to have answers in mind—answers that he wants his interlocutors to reach. Indeed, he seems to envision the entire line of questioning at the outset of the discussions. For he frequently puts the question in such a way that only one response appears reasonable, thereby forcing this answer rather than others. So one might ask, "Does Socrates have the answers in mind to the questions he asks and therefore proceeds by envisioning a whole line of questioning, elenchus style?"

Yet Socrates's questioning of his interlocutors varies a great deal. Indeed, when questioning the same person, he sometimes seems to have an answer in mind and a series of questions envisioned, yet at other times, he seems as much at sea as they do. For example, he persuades Meno that it is right to "inquire into something that one does not know" (86c). He and Meno then set out to answer the question: What is virtue? Socrates says he does not know the answer, and Meno's position is similar. From here on, there are false starts, inconclusive attempts, and the definition is never fully reached, although they do conclude that virtue is advantageous (87e) and a sort of wisdom (89a). But is it knowledge? If so, it must be teachable. Yet Socrates knows no teachers of virtue, and so they conclude that virtue cannot be knowledge. But what is it?

Here we have a case in which Socrates seems not to have an answer in mind, nor does he envision a line of questioning from the start to reach it. His questioning takes different tacks: In vain do he and Meno secure agreement on premises that support a conclusion about the definition of virtue. Eventually, Socrates says to Meno, "You and I are not much good . . . our masters have not trained us properly" (96e). While some accuse Socrates of being disingenuous, there is little evidence that he believes he knows the definition of virtue and is withholding it from Meno. Indeed, the floundering that besets their attempts to discover the definition suggests that on the contrary, they are proceeding by trial and error. Furthermore, error is not always detected as a consequence of falsifying previously established premises; that Socrates knows no teachers of virtue does not mean that virtue cannot be taught.

Thus, we begin to suspect that Socrates does not follow a set method of investigation—"the Socratic method." We see that the outcomes of the Socratic dialogues vary, just as do the aims and the questioning procedures. For example, Meno and Socrates end their conversation in a state of *aporia* over the definition of virtue (*Meno*, 100b). In the *Phaedo*, conversation with his interlocutors seems to persuade Socrates that death is not to be feared, but it does not seem to have that effect on Crito (*Phaedo*, 115c–d). Likewise, while Polus gradually becomes persuaded that the greatest good is not power (*Gorgias*, 480e), Callicles is not convinced by the arguments that sway Polus nor by any others advanced in the conversation, although he several times defers to Socrates, perhaps out of fatigue (e.g., 501e). Finally, Theaetetus and Socrates travel a path together seeking a definition of knowledge. Here, there is wandering hand in hand, so to speak, but the quest ends in a state of aporia for both. No definition of knowledge proves tenable, despite the fact that both Socrates and Theaetetus display plenty of zeal for the search.

In short, there are insufficient grounds for concluding that Socrates pursues a method in his dialogues with his interlocutors. And how could it be otherwise? For each interlocutor is a different person, and Socrates himself becomes a different person with each of them. Indeed, the Socratic dialogues teach us that learning through dialogic exchange proceeds in a unique way each time and that search for an effective method of dialogic teaching is futile.

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See also Dialogue; Plato

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SOPHISTS

In 5th-century BCE Greece, there emerged a new class of teachers, the first generation of Sophists, including, Protagoras of Abdera, Gorgias of Leontini, Hippias of Elis, Prodicus of Ceos, and others. They are sometimes called the "older Sophists" to distinguish these pioneers from those who would later lay claim to the title beginning in the 4th century BCE. The Sophists hailed from different regions of Greece and had a variety of intellectual interests and diverse curricula for their students. But they were united in that they believed that they possessed specialized expertise in teaching, and they offered an education that promised to help students reach new intellectual and social heights. Because they subjected religious, political, and social customs to scrutiny, some Greeks branded them subversive and harmful to both the youth and the society in general. At the same time, however, some Greeks welcomed them, including Pericles, the

great Athenian statesman. The Sophists' celebration of the value and power of learning, their intellectual advances, and their innovations in pedagogy and curriculum were so profound that it is difficult to overstate their importance to Western educational theory and practice. This entry describes the historical context in which the Sophists emerged, their role in education and public affairs, and the evolution of the term *sophist* during the 5th and 4th centuries BCE.

The Sophists arose in response, at least in part, to two cultural shifts in Greece. First, the 6th and 5th centuries BCE featured a flourishing of intellectual activity. There were advances in science, literature, philosophy, mathematics and a variety of other fields. Prior to the emergence of the Sophists, formal Greek education was limited to what would now be called "elementary education," probably ending around the time of puberty, and involving only reading, writing, mathematics, music, and physical education. Many young men, however, wanted to learn about the new intellectual developments of their day, and a market emerged to satisfy them. Sophists began to travel to various cities—especially Athens, where the thirst for learning became a defining characteristic of the population—offering lessons to young men who sought them.

Second, the advent of democracy in Athens resulted in the demand for a particular new set of skills. Political and social prominence was no longer limited to the descendants of the king, nor to an aristocratic class. Social mobility became a possibility for a far greater number of individuals. Indeed, at least in theory, any citizen who could persuade others during collective deliberations could play a prominent role in the city's leadership and become part of the city's elite. In addition, Athenian justice depended on private individuals prosecuting others—there was no public office of legal representatives in Athens. Any Athenian citizen could attempt to make a name for himself by prosecuting another citizen. Many Sophists recognized that persuasive public speaking could be improved with technique and practice. They, therefore, developed and offered lessons in oratory that were enthusiastically sought by young men.

To whatever extent the Sophists tapped into a nascent desire for political and social advancement, on the one hand, or a thirst for learning, on the other, the Sophists enabled these desires to flourish—they both served the market and enlarged it. It was only a brief historical jump from these itinerant teachers who met in marketplaces, gymnasia, or were hosted in the homes of the wealthy, to the following generation, in which their students, in the early 4th century BCE, established the first schools of higher education, as they would be called today. In the late 390s BCE, Isocrates, whom the oratorical tradition places as a student of Gorgias, opened his school. Plato, whose deep engagement with Sophist thought is attested throughout his dialogues, opened the Academy about five years later.

As a class of teachers seeking out and competing for students, the Sophists developed particularly engaging promotional displays. They gave public lectures conveying innovations in speech composition or content, offering a sample of the intellectual and/or oratorical prowess that students might acquire. These displays sometimes involved a particularly moving retelling of a moral tale—such as Prodicus's story about Heracles's decision to choose the difficult path to virtue rather than the alluring, easy path to vice, and Hippias's speech about Nestor's advice on the noble pursuits for the young—or they might argue a counterintuitive or countercultural idea, such as Gorgias's *Encomium to Helen*, in which he dazzled his Athenian audience with his novel prose style as much as his defense of Helen. In addition to speeches, a display might involve fielding questions with clever, erudite, and otherwise impressive responses.

Students who attended the Sophists' regular lessons might have listened to lectures, recited speeches, or engaged in the analysis of both the form and content of poetry or speeches. Some Sophists would question their students; indeed, Diogenes Laertius credits the invention of "Socratic" questioning not to Socrates but to Protagoras. Others provided lessons in debate, requiring their students to argue either side of a question, another innovation Laertius credits to Protagoras. The duration of study seems to have been varied, and it is likely that there were different fees for short courses or lectures and longer associations. (Plato's Socrates quipped that he could only afford Prodicus's cheaper, shorter lecture on the precise use of words.) On the other hand, some students would have experienced a prolonged apprenticeship, traveling with a Sophist from city to city, and some hoped to become Sophists themselves.

The actual curriculum offered by individual Sophists varied, as they had different interests and specializations. Most Sophists taught oratory and debate. Many promised to teach excellence or virtue, especially pertaining to politics and citizenship. Most

collected fees for their teaching, and Protagoras, Gorgias, Hippias, and Antiphon (b. ca. 479 BCE) were reputed to have acquired great wealth through their teaching. Prodicus specialized in the precise use of words. Others focused on literary criticism, ethics, psychology, religion, or other subjects. Plato's Protagoras disdainfully remarks that other Sophists teach their students traditional subjects like calculation, astronomy, geometry, and music, subjects on which he would not waste students' time. In general, Sophists were studying a wide range of topics. As teachers who invited students to participate in an intellectual journey, it is likely that they would have taught the subjects in which they themselves were immersed.

The question of what the Sophists taught depends, however, on the definition of "Sophist," a problem that has proven difficult to settle. Who was a Sophist? The root of the term *sophistēs* is *sophos* (wisdom). Until the 5th century BCE, *sophist* was a term of praise, often used for poets, whom the Greeks regarded as teachers. By the 4th century BCE, *sophist* was generally a term of disparagement. For example, Aristotle wrote that Sophists teach social and political matters without practicing or having any experience of them, and Xenophon warned that Sophists defrauded their students.

Based on the 4th-century BCE depictions of Sophists, one might define a sophist as a professional teacher who offered lessons for pay in, at a minimum, oratory or political affairs, but who was not himself politically active. Their lack of political experience, and the improbable boasts about the benefits of their lessons, led people to view Sophists with suspicion. But it is not clear that the definition of *sophist* that took shape in the 4th century BCE is applicable to the older Sophists. Several of the older Sophists were politically active. Pericles was said to have asked Protagoras to write the constitution for the Athenian colony at Thurii. Gorgias served as an ambassador, negotiating an alliance between Athens and the Leontinians. Prodicus and Hippias too seem to have served as ambassadors. There remains scholarly controversy about whether the historical Antiphon—political leader, orator, and sophist—was a single person or three different people. But if he was indeed the same person, he was an Athenian Sophist who was a leader of the oligarchy—a political role for which he was later executed.

Not only were the sophists more experienced in the affairs of public life than the later criticism would suggest, it is also not clear that they should be viewed strictly as paid teachers. While most of the Sophists did seek fees for their lessons, others apparently did not. Socrates famously accepted no fees and was yet identified as a Sophist. Later philosophers like Plato suggest that such a label conflated Sophists and philosophers. But such distinctions may have emerged after or late in Socrates's lifetime. Furthermore, scholars have debated whether Gorgias should be considered a Sophist, since he seemed to be exclusively concerned with teaching oratory. Yet it is possible that these distinctions evolved later to distinguish the single, diverse group of Sophists in the 5th century BCE. In short, the range of meaning of *sophist* in the 5th century BCE was quite broad, probably encompassing many intellectuals who consciously educated young men. Ultimately, what united the older Sophists was that they kindled a desire for learning in young men, they created possibilities for young men to continue their education, they developed innovations in pedagogy and curriculum, and they led a cultural transformation that laid the foundation for the popular acceptance of learning beyond elementary education.

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See also Isocrates; Plato; Socrates and Socratic Dialogue

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Spectator Theory of Knowledge

During the course of Western intellectual history, many philosophers have grappled with the problem of how it is possible (or if indeed it *is* possible) for us

to gain knowledge about the external world. A number of rival epistemological theories have been developed in response to this challenge, and until recently, the major contenders have possessed at least one feature in common—they have depicted knowers as passive absorbers of input from the external environment. These theories have given different names to this input, and they have given different accounts of what happens after it has been absorbed—and in some of these accounts, the mind of the knower is far from being passive. But crucially, at the initial stage of reception of the input, the mind is not active. And—perhaps even more crucially—neither is the body. In short, the knower is a spectator, an onlooker. This entry first examines this conception as framed by Plato and the empiricists John Locke, and others. It then considers the objections to the spectator theory that were raised by William James and John Dewey, who emphasized an active role for the knower and argued that such a conception has important implications for educational practice.

The American psychologist and cofounder of the philosophical movement of pragmatism, William James, a staunch critic of spectator theories and perhaps the person who actually coined this label for them, wrote as follows in an early review of Herbert Spencer's theory of mind:

> I, for my part, cannot escape the consideration forced on me at every turn, that the knower is not simply a mirror floating with no foothold anywhere, and passively reflecting an order that he comes upon and finds simply existing. The knower is an actor. . . . In other words, there belongs to mind, from its birth upward, a spontaneity, a vote. It is in the game, and not a mere looker-on. (James, 1878/1992, p. 908)

James's metaphor of the passive, floating mirror is brilliant and suggests the essence of his criticism (of which, more later); but it is only one of a long line of metaphors that have been used by philosophers who have developed spectator epistemologies. Two examples will have to suffice.

The earliest Western philosopher to warrant discussion is Plato who, in his masterpiece *The Republic*, used the famous Allegory of the Cave to illustrate his view about the acquisition of knowledge. Stripped of some of the detail, Plato described a group of prisoners chained in a cave so that their backs were toward the entrance, and they could not see the passing parade (the realities) outside—they could only watch the shadows that were cast on the back wall, shadows that they mistakenly took to be the realities. To gain genuine knowledge, the shackles had to be removed so that the prisoners could turn their vision in the other direction. Throughout, these prisoners (who, of course, represent most of us) were passive viewers—after all, they were chained; for them to gain knowledge, their vision had to be directed in the right direction, but they did not have to go out and explore or conduct experiments or take action in the world. (And in this context, it is worth noting that, since Plato's work, there has been a tradition of discussing the gaining of knowledge in visual terms—even today, we still commonly use expressions such as "I see the point you are making.")

In *The Republic*, in other less metaphorical passages, Plato outlined the educational program that enabled at least the rulers to have their vision turned so that they could gain genuine knowledge—it consisted, in its crucial final stages, of a regimen of mathematics and metaphysics that equipped these individuals with the ability to think abstractly so that they could perceive the (metaphysical) realm of the ultimate realities, the "forms."

A quite different spectator theory—or, more accurately, family of theories—was developed by the empiricist philosophers John Locke, David Hume, and others in the late 17th and 18th centuries (forebears of an epistemological orientation that is still alive today). Locke conceived of the mind of the knower as an "empty cabinet" or as a blank sheet of paper; in a much-quoted passage he wrote,

> Let us then suppose the mind to be, as we say, white paper void of all characters, without any ideas. How comes it to be furnished? Whence comes it by that vast store which the busy and boundless fancy of man has painted on it with an almost endless variety? Whence has it all the materials of reason and knowledge? To this I answer, in one word, from EXPERIENCE. (Locke, 1689/1947, p. 26)

On Locke's account, experience is something that *happens* to a knower; the sense organs are the conduits by way of which "sense data" (to use the modern terminology) enter the mind and are "painted" on it. (Open your eyes, and you see; if you have functioning ears, you cannot help but hear; if you have a nose, you detect odors. These experiences happen to you.) Here experience is not conceived as involving intervention, experiment, or action taken in the world; it is after the mind is "furnished" with simple ideas that mental activity (of a sort) takes place.

On what grounds did William James object to all forms of the spectator theory? Under the influence of Charles Darwin's theory of evolution, he rejected the dualism that they seemed to take for granted—spectator theories assumed that the knower (or the knower's mind) was a viewer or observer of nature and not a participant in it; in other words, they set up the philosophically intractable dualism of "mind versus nature." But in James's view, Darwin had established that mind—including, of course, the capacity to reason—evolved *within* nature and served a vital biological function; namely, it helped us survive within nature by being able to predict the consequences of our actions and by being able to formulate plans or courses of action by means of which we could "escape the better from destruction" (see especially *Talks to Teachers on Psychology*, chap. 3). In other words, as James memorably put it in the passage quoted earlier, the knower "is in the game, and not a mere looker on."

James (1899/1925) conveyed this "biological conception of mind"—according to which man is not a spectator of nature but "is primarily a practical being, whose mind is given to him to aid in adapting him to this world's life"—to teachers, in his popular lectures and in Chapter 3 of his equally popular book based on them, *Talks to Teachers on Psychology* (p. 25). He was convinced that it was "the point of view likely to be of greatest practical use to you as teachers" (p. 24).

John Dewey, writing under the influence of James's psychology, stressed that to gain knowledge, the knower had to act in the world—make changes in it. He developed this point at length, and in the context of his specific criticisms of the "spectator theory," in the chapter on "The naturalization of intelligence" in his *The Quest for Certainty* (1929/1988), where he stated, "Nature is capable of being understood. But the possibility is realized not by a mind thinking about it from without but by operations conducted from within" (p. 172). In his educationally oriented writings, he also made a direct link between epistemology and methods of teaching; and he traced the origin of dysfunctional, traditional teaching methods—that suppressed student activity and enforced passivity in the classroom—directly to the acceptance of the spectator theory of knowledge:

> In schools, those under instruction are too customarily looked upon as acquiring knowledge as theoretical spectators, minds which appropriate knowledge by direct energy of intellect. . . . Something which is called mind or consciousness is severed from the physical organs of activity. The former is then thought to be purely intellectual and cognitive; the latter to be an irrelevant and intruding physical factor. (Dewey, 1916/1958, p. 164)

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See also Associationism; Dewey, John; Evolution and Educational Psychology; James, William; Locke, John; Plato; Radical Constructivism: Ernst von Glasersfeld; Spencer, Herbert

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Spencer, Herbert

Education: Intellectual, Moral and Physical, by Herbert Spencer (1820–1903), originally appeared as four essays in various British quarterlies between 1854 and 1859. Reprinted as a book in 1864, Spencer's essays on education also became very well-known on the Continent, and the book was the most widely read text on this subject in the United States during the second half of the 19th century. Spencer stressed the need to substitute a scientific education for a classical one and the importance of teaching children without the use of coercion and rote learning. His views drew on those of the Swiss educationist Johann Pestalozzi (pp. 115–129) and on the experience of his father William George Spencer, who was a scientific publicist and teacher.

The Educational Value of Knowledge

The foundations of Spencer's (1864) educational theory were the answer to his question, "What

knowledge is of most worth?" (p. 21). He argued that what commonly passed for education among contemporary pedagogues was insubstantial and decorative. Their views had emphasized rhetoric and other refinements drawn from the classics while ignoring the practical arts that would improve the well-being of the individual and the community. In Spencer's view, the fine arts and belles lettres had to be subordinate to the kinds of applied knowledge that support civilization (p. 74). He also argued that although learning the classics might contribute to the training of various mental faculties ("formal discipline"), the sciences were at least equally beneficial—and had the added advantage of being practically useful. (Spencer's case here helped earn the sciences a place on the school curriculum, where they gradually replaced the classics.) While Spencer acknowledged that a classical education could benefit its possessors by making them more fluent and masterful in speech, this would be a mere competitive advantage to the individual and would not constitute a genuine benefit to society.

Spencer deprecated competition, and rather than advocating a kind of "educational Darwinism," his notion of utility was based on a belief that common welfare required that each individual be equipped with knowledge that would increase his or her commercial value and the material welfare of people as a whole. If education did not produce these effects, then it was simply decorative. Spencer was arguing that an education in the classics or one of the humanities, such as history, was equivalent to Orinoco Indians painting their bodies while neglecting to clothe themselves or to a barbarian people filing their teeth when it would be more utilitarian to leave them unmodified. He was particularly struck by the account of the explorer John Hanning Speke, whose African attendants removed their handsome goatskin mantles when it rained and, as a result, walked about naked and shivering. To Spencer, this was a prime example of a general human preference for decoration over utility, and unless this tendency was checked by education, even "we," the civilized, would care more for the fineness of a material than its warmth (Spencer, 1864, pp. 22–26).

Spencer believed that, in any culture, the possession of fine decoration might give its possessor a competitive advantage. However, whether this decoration was a fine garment or classical learning, Spencer would not permit it: Getting ahead by use of a cosmetic advantage had no real bearing on what he called the "arts of life." The classics and humanities were particularly superficial or cosmetic because in addition to being mostly decorative, they purveyed only dead knowledge about past cultures. This was a memory of what had been useful but which could no longer aid human welfare because social evolution had changed the utilities.

Instead of focusing on dead knowledge, a modern curriculum should consist of subjects that might enhance a person's life. Putting this under Spencer's (1864) headings, education should accomplish the following:

1. Make people more self-preserving
2. Contribute to their "necessities," or putting this in more modern terms, to the acquisition of skills and knowledge required to earn a living
3. Help them rear and discipline offspring
4. Maintain social and political relations
5. Encourage activities that would help people enjoy leisure. (p. 32)

This list would encourage the teaching of a wide array of practical subjects, including commercial ones, engineering, child psychology, sociology, political science, and sport, while excluding much of what the 21st century would regard as the liberal arts. Not only was Spencer's educational canon narrow, it was accompanied by a set of priorities that was heavily biased in favor of commercial and scientific studies. For example, teaching industrial activity had priority over the teaching of parenting skills, and that, in turn, was favored over civics classes. Many of these preferences were expressed aphoristically. The study of ethnology, which deals with contemporary peoples, was better than the study of Aeschylus. Human biology always had more value than the classics, and in general, the sciences were intrinsically good, while the teaching of Latin and Greek had only a marginal value in providing the basis of learning one's own language (Spencer, 1864, pp. 33–63).

It is important not to confuse Spencer's (1864) educational values with more recent liberal ones that are tinged with Kantianism, or which posit individualism as the goal of education. He believed that the notion of leaving children to find their own way—a system of complete laissez-faire—was a reductio ad absurdum. Spencer's rationale here was biological: Culture must be imposed on students because humans were very complex beings whose

development was slow compared with that of other animals. Therefore, they were dependent on their parents for lengthy periods of time and needed structure as well as knowledge (p. 113). The fact that Spencer's general list of subjects for the curriculum included instruction on how to discipline children and how to maintain "proper" social and political relations should warn the reader that Spencer's values are not analogous to general libertarian or anarchist ones but are those of a Victorian reformer who desired that individual development be integrated with social and political institutions. It is, of course, true that his later political writings militated against an enlarged or socialist state, but, even then, he believed that, provided the state stayed within its traditional limits, people should be educated to respect authority and a constitution. (Spencer's politics are complicated if taken out of their historical contexts. In the 1850s, when he wrote *Education*, he was known for his advocacy of land nationalization—a form of socialism—in *Social Statics* [1851]. In 1884, when many of his fellow liberals were beginning to turn to state socialism, he opposed this movement in *The Man "Versus" the State* on the grounds that forced social change was likely to be ineffective or even harmful.)

The utilitarian quality of Spencer's *Education* was based on an individualistic utilitarian calculus because Spencer emphasized the *social* utility of an education as much as he did its personal benefit. Rather than being a moral philosophy like the theory of Jeremy Bentham, Spencer's utility was more in the way of philistinism of the kind that so troubled Matthew Arnold in *Culture and Anarchy*. From an Arnoldian perspective, Spencer was a spokesman for the mid-19th-century industrial ethos. From this perspective, an education is valuable only when useful in sustaining society. This social and economic injunction was functional and should not be confused with "decorative" qualities. (The only nonfunctional exception that Spencer allowed in his education was preparation for leisure.)

A Paradoxical Influence

The restrictive nature of Spencer's *Education* makes its legacy problematic. Given that Spencer was hostile to the kind of liberal arts that developed in the United States where his text was so widely disseminated, his putative influence is paradoxical. It could be the case that Spencer, like Locke in the 18th century, was more often cited than read. Alternatively, Spencer had many readers whom he perversely provoked into admiring the very things he despised. Perhaps, finally, Spencer's educational ideas were ephemeral.

His beliefs were a product of his journalistic career during the 1850s and were prior to and independent of the philosophical system he produced between 1861 and 1893. In this system, he advanced a variety of evolutionary theories covering metaphysics, biology, and ethics. Some of these later ideas conflicted with the scientific opinions that had appeared in his *Education* because he never modified or updated these so that they would be adjusted to the more sophisticated and empirically grounded material in his system. These inconsistencies are particularly significant in Spencer's thoughts on psychology and sociology, areas that have a bearing on child development and socialization.

The difficulty in reconciling Spencer's educational theories with his general philosophy has caused particular confusion in two controversial subjects: Darwinism and progressivism. Spencer has been both praised and condemned for advocating one or the other of these two ideologies, but the reality was more complicated: Dealing with the first of these subjects is quite straightforward because it is a simple mistake to say that Spencer was a Darwinist in the sense of advocating competition or struggle for survival in education or social policy. That is, it is erroneous to claim that anyone before World War II used terms such as *Darwinism*, *social Darwinism*, or *Spencerianism* in a way that would justify "survival-of-the-fittest" doctrines in educational or social policies. Phrases such as *social Darwinism* belong to late 20th-century ideological debates, not to earlier scientific ones. (The publication in 1944/1992 of Richard Hofstadter's book *Social Darwinism in American Thought* did much to bring *social Darwinism* into popular parlance; see Leonard, 2009.) In any case, Spencer's portrayal of hypermasculine traits as recidivist, his advocacy of leisure, his well-known pacificism, his opposition to cruelty to animals, and his dismissal of the work ethos should have saved him from being recycled as an apologist for ruthless capitalist competition.

However, the second topic, progressivism, is more complex because Spencer was progressive in that he believed that education and science led to social progress combined with the view that inherited status should be abolished. This gave a forward-looking gloss to his beliefs. Since he thought that high-status groups neglected a scientific education

in favor of a classical one, which inculcated martial qualities, it meant that, for contemporaries, his education was perceived as radical. However, this aside, it seems willfully wrongheaded to enroll Spencer under the banner of a progressive education tradition beginning with Jean-Jacques Rousseau and continuing with Johann Pestalozzi, John Dewey, and Jean Piaget (see, e.g., the polemical work by Kieran Egan, 2002). Whether or not Spencer fits in this tradition, it is also doubtful whether the other writers should be grouped together as holding a common educational philosophy. Treating these figures as an ideological force seems willful and says more about the strength of the progressive tradition in American historiography than it does about the history of education. While it is easy to demonstrate the close connection between the first two figures in the tradition, Rousseau and Pestalozzi, the other putative links are mysterious—the practice obscures more than it reveals.

It is particularly awkward to refer to Rousseau and Spencer as being in the same education tradition when they perceived human development from starkly contrasting points of view. Spencer's *Education* (1864) posited that individual development "recapitulated" social evolution (p. 122) in a way that reversed Rousseau's famous dictum that both children and society began with freedom and ended in chains. Spencer, in common with many 19th-century social scientists, distrusted the notion of "primitive" freedom; instead, he hypothesized that individuals and societies *grew* into their respective cultures without preserving original virtues. While endorsing kindness to children and noninterference with indigenous peoples, Spencer's *Education* claimed that indigenes were backward because they held to prescientific and ineffective forms of knowledge. His support for noninterference with indigenes was not caused by their possessing freedom; it was because he detested the cruelty and violence that could be found in the administration of empire. Similarly, children should be treated kindly—not to preserve their freedom but because to do otherwise was cruel. Spencer's feelings on this subject were rooted in an ideal of hedonism that imagined that educational instruction and administration would be more effective if children and others in a weak position were not subjected to painful labor or discipline. It was not an echo of republican freedom that was heard by Spencer but a desire to preserve the values of spontaneity and leisure, which were values that humanity had only acquired recently. That is, rather than harking back to a golden age after the fashion of Rousseau's freedom, Spencer's ideals—spontaneity and leisure—could only find fulfillment in advanced societies. There was an important difference here: Freedom had been usually construed as a civic value, while spontaneity and desires were private goods with no obvious public utility. Despite this, for Spencer, they constituted a powerful progressive bond between education, the process by which a private person learned to enjoy spontaneity and leisure, and an advanced political society, which protected these values from threats. In Spencer's terms, a society was progressive if it was sufficiently developed to undertake this task successfully.

While Spencer's *Education* was one formulation of his particular brand of progressive ideals, it was not the only source. Often, his contemporaries accessed Spencer from one of the volumes of his *Philosophical System*. Even Dewey, the mainstay of the so-called progressive tradition, took his Spencerism from *The Principles of Psychology* (1870, 1872), not from *Education*. This point is especially worth making because it has been recently denied that Dewey's educational beliefs were Spencerian. This argument depends on a detailed comparison between Dewey's theory and Spencer's *Education* while neglecting Dewey's tentative and complex debt to Spencer's psychology. Without reinforcing the idea of the progressive tradition, it is worth noting that the edition of the *Principles of Psychology* that attracted Dewey's attention to Spencer was the text in which Spencer distanced himself from the kind of racist comments that had appeared in his *Education*. Spencer's *Psychology* relied on ethnographic data as well as on neurophysiology, but in both disciplines, he tended to avoid statements that implied that a particular cultural or ethnic group possessed superior mental capacity. This liberal form of antiracism was closely associated with Spencer. Contemporaries who combined evolutionary theory with ethnography data—such as John Lubbock and Lewis Henry Morgan—displayed a racial ideology that associated indigenous peoples with primitive qualities. In his sociological and ethical writings, Spencer jettisoned the idea that the advance of civilization was accompanied by moral progress. On the contrary, he believed that "presocial" peoples often possessed more virtues than civilized ones. Since Spencer is sometimes accused of promoting a racial ideology, it should be stressed that the cultural emphasis of his evolutionary writing blunted biological racism

(Jeynes, 2011, pp. 538, 551; Leyva, 2009, p. 365). Because Spencer was uninterested in questions of genetic origins and species variation, there was little in his biological writings that contemporaries could use to offset his belief that cultural change was more important than genetics.

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See also Evolution and Educational Psychology; Faculty Psychology and Mental Discipline; Pestalozzi, Johann H.; Progressive Education and Its Critics; Social Darwinism

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Stage Theories of Development

See Moral Development: Lawrence Kohlberg and Carol Gilligan; Piaget, Jean

Stereotype Effects and Attributions: Inside and Out

Stereotypes were first described by Walter Lippmann (1922) as "mental pictures of reality." Expanding on this notion, Gordon Allport (1954) considered how stereotypes (which he defined as "overcategorizations") are formed and applied. Allport was the first to say that stereotypes can manifest from a "kernel of truth" (p. 19), meaning that people take one (kernel) experience with a given group and attribute that experience to all group members; thus, stereotypes are not necessarily reality based (as Lippmann implied). Allport wrote that because it takes too long to think deeply about everything we encounter, people must rely on snippets of information (i.e., stereotypes) to make decisions. Stereotypes are beliefs, knowledge, and expectations about a group that influence our thoughts, feelings, and behavior. Stereotypes are formed from our experiences and what we are told or learn from outside sources (e.g., media, parents, teachers, peers, etc.). Stereotypes play an important role both in how we see other people and how we ourselves feel and behave. This entry examines common misconceptions about stereotypes, how stereotypes influence perceptions of others as well as perceptions of the self, and the future of stereotype research.

How Are Stereotypes Different From Prejudice and Discrimination?

The term *stereotype*, and its cognates, is often misused and is incorrectly believed to be interchangeable with *prejudice* and *discrimination*. For instance, even though a person can easily list five stereotypes about women, this does not mean the person is prejudiced or will act discriminatorily. Stereotypes

are *thoughts* (i.e., cognitions) about a group; prejudice refers to *feelings* (both positive and negative) and does not involve any action toward that group. A biased *action* is called discrimination. This entry focuses on stereotypes.

Looking Out: How Stereotypes Influence Our Perception of Other People

Stereotypes shape how people judge and evaluate others. People often attempt to explain an individual's actions or evaluate a person's skill level by appealing to stereotypes. A classic test of this in stereotype research has people read about a student who goes to the store, who argues with his roommate, and who studies for a test. Imagine that this student's name is either Donald or Jamal. When people read about Jamal as opposed to Donald, they rate the student's behavior as more aggressive because they assume Jamal is African American and African Americans are stereotyped as violent. Even positive information is filtered through stereotypes. For example, consider a student athlete who wins a big game; if people think the athlete is a boy, they praise his innate ability; if they think the athlete is a girl, they praise her effort. Boys are stereotyped as naturally gifted at sports, while if a girl succeeds in sports it is due to practice. Thus, stereotypes change the meaning that people attribute to the same behavior (athletic prowess or arguing with a roommate).

Thomas Pettigrew (1979) proposed the concept of *ultimate attribution error* as one way to think about stereotyping. People erroneously interpret the negative behavior of a group member as characteristic of the entire group, reinforcing negative group stereotypes. However, when people are faced with positive information that defies the group stereotype, they assume it is a situation-specific anomaly, making it nearly impossible for them to change their group stereotypes.

All people (men and women, Blacks and Whites, young and old) unintentionally use stereotypes to explain the behavior of others. This unintentional stereotyping (or implicit stereotyping) is very difficult to overcome. In a classic demonstration of the power of implicit stereotypes, Patricia Devine (1989) showed that simply thinking about a particular group brings to mind the stereotypes associated with that group, even among people who consider themselves tolerant, fair-minded, and "motivated to respond without prejudice." For example, even professors in the sciences at prestigious universities use gender stereotypes to evaluate the competence of a (male vs. female) graduate student.

In some cases, unintentional implicit stereotyping can manifest itself in a way that renders the stereotype true. The *self-fulfilling prophecy*, identified by Robert Rosenthal and Lenore Jacobson (1968), occurs when an individual (the perceiver) holds stereotypes about another person (the target) that inadvertently shape the target's behavior. For instance, within a classroom setting, a teacher (the perceiver) might believe that male students (the targets) will not be as gifted in reading as female students. Because of this stereotype, the teacher might spend less time answering questions posed by—and respond less favorably toward—male students in reading class. As a result, male students will begin to perform more poorly in the classroom. While the teacher will interpret the male students' behavior as confirmation of his or her belief that male students are not as gifted as female students in reading, in reality, male students are performing poorly because of the teacher's biased treatment that was based on the teacher's gender stereotypes about reading performance. In fact, stereotypes that parents, peers, and teachers have about students have an effect on students' behavior far beyond the classroom, affecting domains such as choice of academic major and even career.

Looking In: How Stereotypes Influence Our Own Self-Perceptions

People assimilate to an activated stereotype even if they are not members of the stereotyped group. For instance, many people hold the stereotype that professors are smart. Thus, when the stereotype of a professor is brought to mind, people will assimilate to this stereotype by acting more intelligently. More specifically, when students are exposed to words related to being a professor (activating the stereotype), students actually perform better on an intelligence test. This effect occurs because there is an association between behavior and mental representations (including stereotypes) in the mind. In the same way that sleepiness leads to sleeping, when stereotypes are brought to mind (even without awareness), people behave in a manner consistent with the stereotype.

Stereotype assimilation can be particularly problematic for people who are members of the

stereotyped group. *Stereotype threat* occurs when someone is worried about confirming a negative stereotype about his or her group. Claude Steele and Josh Aronson (1995) demonstrated that even among bright, high-achieving Black students at Stanford University, simply checking a box to indicate their race on a demographic sheet was enough to trigger stereotype threat, resulting in lower scores on an intelligence test. People often assume that their test performance or interest in a given achievement field is the result of skill level and personal choices. Yet stereotype threat research tells a different story. A woman who is in a room full of men in a physics classroom may be highly skilled, but she may worry that because she is a woman, she will be judged by stereotypes about women in science. Her worry will deplete her mental resources and hurt her performance. The stereotype will cause her to focus on not failing (instead of on succeeding), will distract her from the tasks at hand, and will result in greater feelings of uncertainty about belonging. Over time, the mere presence of the stereotype may undermine her motivation, contributing to what Jessi Smith, Sansone, and White (2007) termed the *stereotype task engagement process*. Unmotivated and exhausted, this woman is likely to drop out of physics, reinforcing the stereotype that women do not belong in science and perpetuating the stereotype that physics is difficult, nerdy, isolated, and unfriendly toward women.

Such stereotypes about majors, fields of study, and careers can partially determine what careers people choose. Although most people think they choose a career because it suits them, people use stereotypes to determine career suitability. In fact, students often choose careers that they believe are consistent with their goals and values. Amanda Diekman, Brown, Johnston, and Clark (2010) developed *goal congruity theory*, which predicts that when students believe (based on stereotypes) that a career field will not meet their goals, they are less likely to choose that field. For instance, many students in the United States believe that the fields of science, technology, engineering, and mathematics involve spending the majority of one's time working alone. This stereotype of the "lone scientist" deters students who value collaboration from deciding to pursue a career in these important fields. In reality, however, scientists often collaborate in teams, mentor students, attend conferences, and are very engaged with other people, and when this information is pointed out (the stereotype is debunked), students are more likely to show interest in the field.

Looking Into the Future

Some people are obviously members of a stereotyped group—characteristics such as skin color, gender, and obesity are visible to the eye. The vast majority of research on stereotypes focuses on obvious group membership. What if someone has a concealable characteristic, such as sexual orientation, mental illness, or religion, that is difficult to determine visually? How do these types of stereotypes influence how people view others and how people view themselves? Additionally, what happens when someone is a member of more than one group? The next stage in stereotyping research is parsing through these types of questions.

Summary

Stereotypes are thoughts about groups that shape our beliefs and behavior. You do not have to agree with a stereotype, and you do not even have to realize you hold the stereotype, for the stereotype to influence and affect your perceptions of others (looking out) and your perceptions of yourself (looking in).

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See also Achievement Gap; Achievement Motivation; Motivation; Racism and Multicultural Antiracist Education

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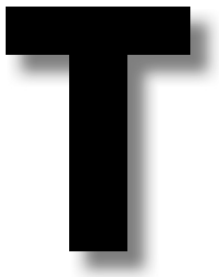
Symbolic Interactionism

See Mead, George Herbert



Taoism

See Daoism

Taxonomy of Educational Objectives

The *Taxonomy of Educational Objectives, Handbook I: Cognitive Domain*, a small volume developed to assist college and university examiners, has been transformed over the past half-century into a basic reference for educators worldwide. In addition to testing, evaluation, and assessment specialists, it has been used by curriculum designers, researchers, administrators, and classroom teachers throughout the world at all levels of education. This broad-based use of the taxonomy is consistent with its stated purpose: to facilitate communication among everyone involved in education by providing a common framework with a common language (see, e.g., Anderson & Sosniak, 1994). This entry discusses the origins and objectives of the taxonomy, its structure, criticisms of the taxonomy, and alternative frameworks that are based on it.

The Origins of the Taxonomy

In 1931, President Robert Maynard Hutchins established general education requirements for undergraduate students attending the University of Chicago. They were required to complete four-year-long introductory courses in each of four divisions and pass a comprehensive examination in each. Student scores on these examinations were the sole gauge of academic success; mandatory attendance and letter grades were eliminated. To ensure that the examinations were sufficiently valid, reliable, and objective for their intended purpose, Hutchins established a board of examinations, headed by a university examiner and a group of college examiners, each of whom was responsible for working with the faculty in a specific college within the university. In the late 1940s, Ralph W. Tyler was the university examiner, and his student Benjamin S. Bloom was a college examiner for the Division of Social Sciences (Bloom, 1954).

At the meeting of the American Psychological Association held in 1948, Bloom suggested to his colleagues that the development of a common framework of goals and objectives might be useful in facilitating the exchange of ideas and materials that would enable them to do their work more effectively and efficiently. The proposal was well received and work on the development of the "examiners' taxonomy" began a year later. After five years of work by more than 30 educators, psychologists, and psychometricians, a preliminary edition of the *Handbook* was produced. Two years later, the final version, which incorporated suggestions from the reviewers of the preliminary edition, was published (Bloom, Englehart, Furst, Hill, & Krathwohl, 1956). As the title implies, the original plan called for two additional handbooks, one in the affective domain and the other in the psychomotor domain. Although both were eventually completed (Harrow, 1972; Krathwohl, Bloom, & Masia, 1964), when

educators speak of "the taxonomy" or "Bloom's Taxonomy," it is the cognitive taxonomy that is being referenced.

The Nature of Objectives and the Structure of the Taxonomy

To understand the taxonomy, it is important to understand the structure and format of objectives. In education, objectives are "explicit formulations of the ways in which students are expected to be changed by the educative process" (Bloom et al., 1956, p. 26). Tyler (1949) suggested that the "most useful form for stating objectives is to express them in terms which identify both the kind of behavior to be developed in the student and the content . . . in which this behavior is to operate" (p. 30). Tyler used the term *behavior* to refer to a broad spectrum of human reactions that included thinking and feeling as well as overt actions. Tyler's formulation led to a standard grammatical structure for objectives, namely, subject–verb–object. The subject is the student or, in Tyler's terms, the learner. The verb is the behavior, and the object specifies the content. Consider, for example, the following objective: "The learner should be able to use laws of electricity and magnetism (e.g., Lenz's law and Ohm's law) to solve problems." "The learner" is the subject, "use" is the verb, and "laws of electricity and magnetism" is the object.

Focused exclusively on the verbs, the taxonomy consists of *six behavioral categories* that are arranged along a *continuum of complexity* and form a *cumulative hierarchy.* The least complex category is labeled "knowledge," which was defined as "those behaviors . . . which emphasize the remembering, either by recognition or recall, of ideas, material, or phenomena" (Bloom, 1954, p. 62). The most complex category is labeled "evaluation," the "making of judgments about the value, for some purpose, of ideas, works, solutions, methods, material, etc." The four intermediate categories are labeled "comprehension," "application," "analysis," and "synthesis." Each increasingly complex behavioral category was said to build on and incorporate the behaviors in the less complex categories. The term *cumulative hierarchy* was used to describe this interrelationship between and among categories.

Criticisms of the Taxonomy

Criticisms of the taxonomy have been many and varied. Some critics have argued that with its emphasis on student behaviors the taxonomy was based on the principles of behavioral psychology, the predominant psychological theory at the time (see, e.g., Dunne, 1988). These critics fail to understand Tyler's use of the term *behavior* as described earlier and are also guilty of confusing student behavior as an intended outcome with the principles of behaviorism that apply to the ways in which student behavior is learned.

Other critics have suggested that the taxonomy results in a fragmentation of the curriculum (see, e.g., Broudy, 1970). That is, the taxonomy is likely to yield a set of overly specific objectives that are not likely to coalesce into the broader, integrated understandings that are the real goals of the educational system. These critics do not recognize the different "levels" of objectives that can be written, ranging from large general course or program objectives to quite specific lesson objectives. The authors of the taxonomy rejected overly narrow objectives, seeking instead objectives that had a "level of generality where the loss by fragmentation would not be too great" (Bloom et al., 1956, p. 6).

Still other critics argued that the concept of a "cumulative hierarchy" would result in a lockstep approach to both curriculum and instruction (Furst, 1981; Kelley, 1989). That is, teachers would emphasize memorization of the entire curriculum before moving to comprehension, application, and the other higher-order categories. Whether this practice did or did not occur is a matter of debate. What is not debatable is that a large percentage of objectives were in fact written at the lowest level of the taxonomy, "knowledge."

The Taxonomy: Present and Future

In the years since the *Handbook*'s publication, at least 19 alternative frameworks for classifying objectives have been developed (see Anderson & Krathwohl, 2001, for a review), most of which have been derived, either directly or indirectly, from the original taxonomy. In 1996, a team of educators and psychologists, under the direction of David Krathwohl, one of the authors of the original taxonomy, began work on a revision. Of the many modifications made in the original, three are clearly the most important. First, because the original taxonomy was intended to classify student behaviors (i.e., the verbs in the standard format for stating objectives), the revised taxonomy includes the verb forms of the category labels (e.g., the noun "analysis" became "analyze"). Second, based on both the grammatical structure of objectives and the review of alternative frameworks, the revised

taxonomy is two dimensional. To produce the second dimension, the term *knowledge* was replaced by *remember* (which is consistent with the original definition of "knowledge" mentioned earlier). This replacement freed "knowledge" to become a separate dimension, with four types of knowledge specified: factual, conceptual, procedural, and metacognitive. To avoid the confusion of behavior with behaviorism, the first dimension was labeled "cognitive processes." The two dimensions of the revised taxonomy, then, are "knowledge" and "cognitive processes." Third, based partly on available empirical evidence and in part on the concerns expressed by the critics, the "cumulative hierarchy" requirement was abandoned. Instead, the six cognitive processes are seen as "tools in a toolbox," where students can learn to analyze *before or after* they learn to apply.

One final comment is in order concerning the use of taxonomies in education. Taxonomies cannot be applied blindly. They are intended to be used, and are used best, to stimulate thinking about curriculum, instruction, teaching, assessment, evaluation, and the complex interrelationships between and among them. More than 60 years ago, Bloom suggested that his proposed framework could help bring order out of chaos in the field of education. As modern-day education becomes increasingly chaotic, a reconsideration of the importance and use of taxonomies seems warranted.

Lorin W. Anderson

See also Accountability and Standards-Based Reform; Aims, Concept of; Behavioral Objectives and Operational Definitions; Behaviorism; Validity, Types of

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Teaching, Concept and Models of

While teaching and learning are central to the enterprise of education, it was not until the 1960s and 1970s that there was much interest in investigating the concept of teaching itself. This belated attention was sparked in part by John Dewey's claim that the relationship between teaching and learning is the same as that between selling and buying—that is, there is no teaching without learning. The purpose of this entry is to explore this claim and other related philosophical concerns regarding the concept of teaching and then to describe various teaching models.

The Concept of Teaching

In everyday speech, the word *teaching* has three uses. As a verb, it refers to actions intended to bring about learning, and as a noun, it can refer either to the occupation of one who educates or instructs or to a body of ideas or beliefs (as in the teachings of a particular religion or culture). We will focus here on the first, the activity sense, wherein teaching is understood to be a set of actions designed to lead others (a) to know something that they did not know before, (b) to know how to do something they did not know how to do before, or (c) to acquire an attitude or belief that they did not have before. These actions include direct modes of instruction such as lecturing, modeling, demonstrating, explaining, showing, clarifying, and describing, as well as

more indirect modes such as teaching by example, facilitating discussions, involving students in group work, mentoring, and participating in discovery-based activities. The main point is that for an action to be considered teaching, it must (minimally) be an intentional activity aimed at bringing about learning.

Even though most of us might not describe teaching the way a philosopher would, we would probably say that we can recognize teaching when we see it. We may disagree about what constitutes good teaching, but if we are walking down a school hallway and overhear someone explaining and demonstrating on the board how to divide fractions, we will likely assume that person is teaching. Or if, on a visit to the zoo, we see a parent bent down to his child's eye level, pointing to a chimpanzee using a stick to dig ants out of a nest, and talking to the child, we are also likely to assume that the parent is teaching the child something about chimpanzees. But are these in fact instances of teaching? What if, at the end of the day, the students do not know how to divide fractions or if the child at the zoo was so distracted by an airplane overhead that she did not even hear what her parent was saying? Can we still say that the teacher and the parent were teaching? For some philosophers, the answer would be yes, and for others, no.

Based on the work of the ordinary-language philosopher Gilbert Ryle, the question of whether teaching necessarily entails learning is often framed as the difference between teaching as a *task* word and teaching as an *achievement* word. In the task sense, the main criterion for considering an action or set of actions to be teaching is that it is *intended* to bring about learning whether or not such learning ensues. Other examples of task words include run, search, treat, and listen. It is clear that one can engage in these tasks without necessarily succeeding. One can run without winning the race, search without finding the lost object, treat the patient without managing to cure the disease, or listen to the speaker without being able to hear what he is saying. So even though task words are typically coupled with achievement words, achievement or success is not a defining feature of the task itself.

Coming back to teaching, then, if teaching is a task word, it is entirely legitimate to say that teaching has taken place whether or not it has resulted in learning. This is the view advanced by B. O. Smith and Israel Scheffler, whose "standard thesis" defined teaching according to three criteria: intentionality, reasonableness, and manner, and *not* by whether or not the student learned. In a similar vein, C. J. B. Macmillan and James Garrison proposed an "erotetic" concept of teaching wherein the primary job of teachers is to answer students' questions—not just the questions students *actually* pose, but the questions they *ought to* pose in order to help guide them out of their current intellectual predicaments toward more complex levels of intellectual engagement. On Macmillan and Garrison's view, even excellent teaching can occasionally miss the mark and students will not have learned what the teacher intended them to learn, but at the end of the day, one could still say that teaching had occurred. For Dewey, however, teaching is fundamentally an achievement word. Recall his analogy that the relationship between teaching and learning is the same as that between selling and buying. Just as it would make no sense for a storeowner to say he sold a lot of merchandise even though no one bought anything, for Dewey, it makes no sense to say that one has taught *X* if the students did not learn it. In other words, if teaching is understood as an achievement word, no matter how much expertise, imagination, preparation, and care went into planning and delivering a lesson, if the students did not learn, the best one can say is that one *tried* to teach *X* but failed.

Now it might seem that trying to figure out whether teaching is a task word or an achievement word is mere philosophical trifling, but as Scheffler and others insist, any definition of what teaching essentially *is* carries normative as well as descriptive weight. In Richard Peters's view, for instance, education involves initiation into worthwhile activities, and teaching plays a central role in that process by helping students acquire the knowledge, skills, and attitudes necessary for participation in such activities. In other words, teaching is about leading students to a more commendable state of mind than they had before. So as soon as we start to think about teaching, we are already caught up in questions of value. What makes certain activities more worthwhile than others? And what knowledge and experiences will best prepare students to participate in those activities?

If teaching is central to education, and one of the defining features of being educated is the ability to think critically about what one holds to be true, we soon discover that not just any actions intended to lead someone to know (or to know how to do) something they did not know before will suffice. Indoctrinating, coercing, deceiving, bribing, threatening, or lying to students might be quite efficient ways to get students to believe something to be true, but these actions are not the same as teaching. Teaching cannot be about imposition or deceit;

rather it requires the teacher to make himself open to his students' needs, understanding, criticism, and demands for reasons, so that they not only come to believe *that* a particular idea is true, but they know *why* they ought to do so.

Thus far, the discussion has focused primarily on teaching as actions aimed at the cultivation of rational understanding, and this is fairly indicative of work in the field up to the 1980s. Around that time, Jane Roland Martin, Nel Noddings, Susan Laird, and others drew attention to the idea that education ought not to be seen as a purely rational pursuit—that intellectual predicaments are inevitably tied up in human predicaments, in the realities of human lives. They argued that emotional development and participation in the private sphere ought to be considered as fundamental to education as intellectual development and participation in the public sphere. So, following from this, if teaching is meant to contribute to education, it cannot be about ideas abstracted from the particulars of human experience or directed toward some generalized notion of "the student." A key difference from earlier perspectives is that while Scheffler, Peters, and other philosophers acknowledged the inescapably value-laden nature of teaching, they sought recourse in reason and universal experience with little if any attention to the moral emotions and particularity.

Beginning in the 1990s, philosophical conversations about teaching expanded further to include political as well as intellectual and moral concerns, especially the ways in which students' and teachers' race, class, gender, and culture influence teaching. These conversations led philosophers of education to revisit prevailing conceptions of teaching since one of the difficulties in trying to define *good* teaching in particular is that such conceptions often reflect one's own cultural experiences and expectations. For example, is good teaching characterized by active encouragement of student dissent or by the faithful transmission of cultural traditions and ideas? Does good teaching emphasize individual achievement and competition or cooperation and collaboration between students? What are the markers of a good teacher–student relationship?

Since 2000, the work of the French post-Marxist philosopher Jacques Rancière has received considerable attention from educational scholars, especially—although not exclusively—for his 1981 *The Ignorant Schoolmaster: Five Lessons in Intellectual Emancipation*. In that book, Rancière contests the idea of unequal intelligence between teachers and students, arguing that the assumption of unequal intelligence becomes a self-fulfilling prophecy in the dominant mode of teaching (explanation), whereby teachers transmit their knowledge to students in an order and pace determined by the teacher. In contrast, Rancière cites the experience of the 19th-century teacher Joseph Jacotot and his concept of "universal teaching." Jacotot, who spoke only French, was charged with teaching French to pupils who spoke only Flemish, so he gave them both the French version and a Dutch translation of Fénelon's *Télémaque* and told them to start by memorizing some sentences in French and comparing them with the Dutch and then to repeat and gradually build on what they had learned the previous day. Jacotot discovered that over time, with no other help from him, his pupils had learned and could apply the rules of French spelling and grammar. Thus, Rancière argues, if teaching aims to be emancipatory, it must proceed from the assumption that students are as intelligent as the teacher and capable of figuring things out on their own. The role of the teacher, therefore, becomes primarily one of directing and redirecting students' attention and verifying students' work, obliging them to use their intelligence. "The ignorant person will learn by himself what the master does not know if the master believes he can and obliges him to realize his capacity" (Rancière, 1981/1991, p. 15).

This brief sketch is obviously an inadequate representation of the considerable contributions philosophers of education have made to our understanding of teaching, and many more questions remain: Can one legitimately say, "I teach children not subjects"? Is teaching necessarily an interpersonal activity or can computers teach? Does expertise in a subject area such as history or physics qualify one to teach or does teaching also demand pedagogical knowledge? But let us now turn our attention to models of teaching.

Models of Teaching

There are several ways to categorize approaches to teaching and the particular educational aims they serve. Here, we will focus on three frameworks that have been influential in North American education: (1) Bruce Joyce and Marsha Weil's four models of teaching; (2) Gary Fenstermacher and Jonas Soltis's executive, facilitator, and liberationist models; and (3) John Miller and Wayne Seller's transmission, transaction, and transformation orientations.

Joyce and Weil organize teaching into four connected groups of teaching models. The first group,

social interaction models of teaching, focuses on improving students' ability to relate to others as a foundation for improving democratic processes and society in general. Notable examples include Dewey's education for democratic participation and William H. Kilpatrick's project method. The second group, *information processing* models, focuses on the ways individual students take in information from their environment, organize it, generate concepts and solutions to problems, and use verbal and nonverbal symbols. Jerome Bruner's inductive reasoning approach and Jean Piaget's stage theory of intellectual and moral development are two of the best known in this group. The third group, *personal* models of teaching, puts a heavier emphasis on individual emotional development than on the purely cognitive processes. Proponents of these models believe that healthy emotional development is a precondition for both productive social relations and the individual's ability to process information. Two key examples are Carl Rogers's humanistic psychology and William Glasser's choice theory, which emphasizes noncoercive teacher–student relationships and student-centered teaching as the foundation for academic success. Finally, *behavior modification* models of teaching, based on B. F. Skinner's research, focus on changing the student's external, observable behavior rather than attending so much to the underlying cognitive processes. This approach was widely used during the last half of the 20th century in teaching children with cognitive or behavioral difficulties and to regulate classroom behavior.

Fenstermacher and Soltis later proposed a three-pronged model of teaching: (1) the executive, (2) the facilitator (previously called the therapist), and (3) the liberationist. The *executive* approach sees the teacher as a manager of the classroom. Teaching, on this view, is construed as the responsibility to achieve particular learning outcomes using the best skills and techniques available. Educational research thus plays a key role in providing the teacher with the tools she will need to manage the complexities of classroom practice, which in turn ought to result in strong student achievement. The teacher as *facilitator* approach, on the other hand, puts a high value on the experiences students have prior to coming into the classroom. Teaching as facilitating (drawing on its earlier label of teacher as therapist) emphasizes the psychological aspects of teaching. Similar to Joyce and Weil's personal models of teaching, the primary function of the teacher as facilitator is to help his students reach a high level of self-actualization and self-understanding, and this model draws largely on the scholarship in humanistic psychology, learning theory, and existential philosophy. The third approach is the *liberationist*. In its traditional version, the liberationist approach to teaching is rooted in a classical liberal education that positions the teacher as one who frees and opens the mind of the learner, initiating her into human ways of knowing and assisting her to become a well-rounded, knowledgeable, and moral human being. More recently, however, the liberationist approach has expanded to include the idea of teacher as *emancipator*—as one who frees students' minds from political and social oppression based on race, class, gender, or cultural background.

About the same time as Fenstermacher and Soltis's model appeared, Miller and Seller put forward a different three-pronged model of orientations to teaching: (1) transmission, (2) transaction, and (3) transformation. Although their work claims to be about perspectives on curriculum, much of the discussion focuses on teaching. In the *transmission* model, teaching focuses on content mastery through traditional teaching approaches such as lectures or learning from a textbook. As the name implies, teaching on this view goes one way, from the teacher (or text) to the student, and good teaching is that which results in the successful passing on of knowledge from one generation to the next. *Transactional* teaching, on the other hand, is based on a belief that learning happens as students interact with their social and natural environment. The best example of this approach is Dewey's hands-on, experiential education. The third approach, teaching as *transformation*, has clear parallels to Fenstermacher and Soltis's liberationist/emancipatory approach in which the emphasis is on personal and social change.

Conclusion

What these various philosophical debates and ways of describing and categorizing teaching all reveal is that teaching is a difficult concept to pin down with any precision. It has unclear boundaries, and there are several activities, such as training and conditioning, that have some features in common with teaching but on closer examination are shown not to be the same as teaching. For those who work on the front lines in K–12 classrooms, trying to reach a precise definition of teaching might not seem a particularly pressing concern, but figuring out just what it is we are doing—or ought to be doing—when we say

we are teaching is in fact an essential starting point for improving practice.

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See also Communities of Learners; Dewey, John; Ethics in Teaching; Indoctrination; Learning, Theories of; Martin, Jane Roland; Pedagogical Content Knowledge: Lee Shulman; Progressive Education and Its Critics; Scheffler, Israel

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Teaching Machines: From Thorndike, Pressey, and Skinner to CAI

As the psychologist Ludy Benjamin (1988) explains in his retrospective on the history of teaching machines, a teaching machine is a wholly or partially automated device that does three things: "(a) presents a unit of information, (b) provides some means for the learner to respond to the information, and (c) [the device] provides for feedback about the correctness of the information" (p. 704). As the present entry details, the mechanical version of teaching machines was pioneered in the early 20th century and reached their heyday in the 1960s, a point at which they were closely associated with the educational theory of B. F. Skinner. Following a swift decline, the machine technology migrated to early computer systems, becoming part of the computer-aided instruction (CAI) movement of the 1970s. Although both mechanical teaching machines and CAI have long since faded as educational movements, traces of the teaching machine can be found in much of today's educational software.

From Thorndike to Pressey

A reasonable place to begin a brief history of teaching machines is with the psychology of Edward Thorndike (1874–1949), whose experiments inspired some of the first devices of this kind. In *Animal Intelligence* (1911), one of his earliest and most influential works, Thorndike attempted to understand how animals learned. At the time, work on animal behavior was primitive; far-fetched but elaborate theories about animal intelligence were supported by anecdotal reports of clever cats and dogs. Thorndike cut the foundations out from under these theories with a series of experiments in which he placed dogs, cats, and chicks in a series of boxes from which they would try to escape. While the animals were often successful in escaping from the boxes and got progressively more efficient over time within a given box, Thorndike demonstrated that the animals displayed no capacity for either reasoning or imitation. Instead, Thorndike postulated that the animals simply formed an association between a particular problematic situation (e.g., being stuck in a box) and an impulse (e.g., accidentally, in the process of trying to escape, tripping a lever), which then resulted in a pleasurable outcome (e.g., escape). These associations, which, though formed accidentally, became stronger over time and were the basis of how animals learned.

Building on these early experiments with animals, Thorndike theorized that the same associationist logic held true with human learners. From the standpoint of education, then, the problem was one of building an appropriate situation that would elicit

the response from the learner that was educationally useful. In addition, it was also appropriate to reward the correct response, as this reward would make it more likely for the response to be repeated in the future. Thus, by means of a combination of deliberately constructed educational situations and appropriate rewards, the desired skills, knowledge, and habits would gradually be built up.

Given that Thorndike's animal boxes taught animals to make and retain associations, it is not surprising that they inspired one of the first and simplest antecedents to human teaching machines, which took the form of a set of lettered blocks that interlocked within a wooden puzzle box. Created by Hubert Aikins in 1911, the system would "reward" the child with a completed box only if he fit the letters into the box in the correct sequence. This device, however, did not actually present information to the learner, which means that it does not fully fit Benjamin's threefold criteria for a teaching machine—(1) presenting information, (2) providing a means for response, and (3) rewarding a correct response.

The first machine that actually fit these criteria was designed by Sidney Pressey (1888–1979), an educational psychologist, in 1928. Pressey called it a "Machine for Intelligence Tests," and this was, in fact, its primary use. The testing function presented a frame of information to the user, who would then press a button corresponding to one of several possible responses. This button press would be registered through a card punch, and the machine would then advance to the next frame. The "teaching" mode was an alternative mode in which the only substantive difference from "testing" mode was that the user would not be able to advance to the next frame of information until he or she had responded correctly to the question. Pressey also designed a candy-dispensing attachment for his machine, in which a piece of candy would pop into the front of the machine after the user had reached a threshold of correct responses.

Unfortunately for Pressey, his machine was substantially ahead of its time. His devices sold very poorly, and his hope for an "industrial revolution in education" through teaching machines would lie dormant until it was revived about 30 years later by B. F. Skinner.

Skinner and the Heyday of the Teaching Machine

Like Thorndike, B. F. Skinner (1904–1990) was a psychologist; he was destined to become the most famous behaviorist of his day. In the initial stages of his career, he took a particular interest in animal behavior, but he differed substantially from Thorndike in his approach to psychological theory. Skinner felt that theory had proven to be a substantial distraction from paying attention to behavioral data and establishing meaningful, reliable, and quantifiable relationships between behavioral variables. His solution to this problem was a novel one: He proposed that psychology should entirely abandon the futile activity of theorizing mental events and instead focus solely on behavior that could be directly observed.

Naturally, this unorthodox postulate had substantial implications for educational thought. Skinner argued that the critical variable in learning was the entity's rate of response to a particular stimulus—when the correct response was frequently emitted by the organism, one could say that it had "learned" the behavior (although, of course, Skinner eschewed the term *learning* as being excessively mentalistic). Skinner's tight focus on rates of response drew him to experiment with different reward schemes for correct responses ("schedules of reinforcement"), which led him to a number of worthwhile discoveries, including the fact that an intermittent schedule of reinforcement will yield maximal results in terms of the maintenance of a behavior.

Skinner's commitment to the observation, shaping, and control of behavior had impressive results in animal training, and he developed sophisticated machines that were designed to establish effective techniques for controlling animal behavior. Rats were trained to depress levers to obtain food, and pigeons were trained to peck a particular button when a light of a given color flashed (and they even were able to "learn" dancelike movements). Through these techniques, Skinner achieved some spectacularly complex animal "learnings"—in one secret U.S. Army project involving large rockets with warheads, he managed to train a battery of pigeons to peck the same target building on a variety of different aerial photos of a city (a guidance system the military was reluctant to deploy).

For Skinner, it was but a short jump from using machines to train animals, to devising teaching machines for humans. His animal apparatuses were designed to reinforce animals when they emitted desired behaviors and to thereby shape up the final set of desired responses, and the teaching machines were simply viewed by Skinner as a more complex and elaborate version of the same thing. "Learning" math was simply a matter of developing a particular

repertoire of "mathematical" behavioral responses. A particular mathematical stimulus (2 + 2) would be presented, and the child would be rewarded for emitting the correct response of 4.

Mathematical behavior was, however, a more complex set of responses than was required from animals and therefore necessitated a more complex program to shape the correct set of responses. Yet the solution was the same as in the case of the animals: The desired suite of behavior needed to be broken down into a set of small behavioral components, and the components needed to be presented to the child one by one. Thus, Skinner suggested that instructional programs be designed to incrementally develop the final desired behavior. The program's increments would be in the form of simple fill-in-the-blank questions (2 + 2 = ____), and the program would be delivered through a machine that would reward correct responses. Skinner (1959) described one of his prototype machines as follows:

> The device consists of a box about the size of a small record player. On the top surface is a glazed window through which a question or problem printed on a paper tape may be seen. The child answers the question by moving one or more sliders upon which the digits 0 through 9 are printed . . . When the answer has been set, the child turns a knob . . . If the answer is right, the knob turns freely and can be made to ring a bell or provide some other conditioned reinforcement. If the answer is wrong, the knob will not turn. (p. 154)

The idea here was that the child would use the machine to learn, in stepwise fashion, to emit the appropriate mathematical behavior when presented with the proper stimuli. Everyone would gain—the teacher would be freed from drudgery of marking student work, and become instead the "guide on the side" that progressive education had envisioned, and all learners would acquire the repertoire of behavior necessary to become free and capable citizens.

Skinner's ideas proved to be popular, and during the early 1960s, both programmed instruction-based teaching machines and book-based programmed instruction enjoyed a surge of popularity. Unfortunately for Skinner, both the machines and the programs themselves suffered from significant problems, and the initial optimism surrounding these programs and their accompanying machines soon waned. Perhaps the most significant issue was that unlike pigeons, human students had a low tolerance for boredom, and programmed instruction proved to be boring to students of all ability levels. At first, students enjoyed the novelty of the machines, but once the novelty wore off, they were bored by the programs' rigid structure and asocial setup.

Teachers also found the machines to be problematic. The instructional programs did not serve effectively as reference materials due to the way in which the information was broken up and also due to the fact that the programs could not be rewound once they were loaded into a machine. The quality of the programs was also a major issue—it is a difficult (and probably very boring) task to write a Skinnerian educational program, and many teachers found that the programs they were asked to use were badly designed.

A final difficulty was that as the machines gained popularity, there was an influx of hucksterish teaching machines from commercial encyclopedia companies like Grolier, which capitalized on the nascent popularity of teaching machines by exaggerating the original promises of the movement, promising learning "in half the time with half the effort." These promises of instant, easy learning were comically false, as research showed that in actual classroom situations, programmed instruction outperformed conventional instruction only episodically and that the marginal gains that were realized were accompanied by intense student antipathy toward the systems. As a result of this lack of empirical support and a substantial lack of enthusiasm on the part of teachers and students, teaching machines and programmed instructional materials began to pile up in the warehouses of educational publishers. The teaching machine, at least in the form that Skinner envisioned it, was in steep decline by the end of the 1960s.

The Rise of CAI

Yet despite the fact that analog teaching machines failed to catch on, the basic idea behind them lived on. Having abandoned their initial technologies, the backers of teaching machines transferred their techniques to a new device: the computer. Starting from the mid-1960s, the movement to automate instruction gradually ceased to be called "teaching machines" and became known instead as "computer-aided instruction," or CAI, a term that lasted until the mid-1980s. As CAI developed, however, the theoretical currents behind the automated

instruction movement became substantially more complex. In contrast to teaching machines, which were entirely behaviorist in their theoretical underpinnings, CAI featured two principal theoretical strands: behaviorist and cognitivist.

In the 1960s, the early days of CAI, the behaviorist strand was by far the strongest. Many of the early CAI efforts were simply transpositions of the teaching machine to a primitive digital environment. From the conceptual standpoint, the transposition was not particularly difficult to make—the method of programmed instruction was already quite clear, and it was simply a matter of arranging the frames to be presented to children on the computer. Given that the personal computer did not yet exist when CAI began, the early CAI systems were phenomenally expensive—they consisted of central computers that would deliver frames to terminals used by students, who could then respond appropriately. These systems fared well in some studies, however; a series of behaviorist programs delivered by Patrick Suppes' Computer Curriculum Corporation delivered substantial gains in both math and reading. Despite this effectiveness, these systems also suffered from the same principal defect of the original teaching machine: Students found them unpleasant to use.

During the 1970s, as the popularity of behaviorist educational theories declined, a new strand of CAI emerged that was reliant on cognitive psychology. CAI programs of this type tended to rely on conceptual models of how particular cognitive processes worked. For example, a task such as reading could be divided into higher-level processes, such as understanding the narrative, and lower-level processes, such as decoding particular words. A particular piece of software could be targeted at either the higher or lower processes, and the aim would be to move the child toward a point where the student's process in dealing with the information matched the conceptual model of how an expert would process the information.

In general, the cognitive psychology branch of CAI was more innovative and interesting than the behaviorist branch. This was, in part, due to a far greater degree of theoretical flexibility; while behaviorist CAI was stuck with its "atheoretical" strategy of programmed frames, cognitivist CAI could choose from a diverse selection of theoretical frameworks and strategies with which to enact those frameworks. This latter point is especially important; since the cognitivists were free to reject the behaviorist strategy of incremental learning, they were free to create far more interesting computer-controlled environments in which children could immerse themselves.

The Legacy of Teaching Machines

During the 1980s, the term *computer-aided instruction* faded from use in favor of the term *educational software*. This decade witnessed the rise of the personal computer, which was accompanied by an explosion of interest in educational software development. Some of this software followed in the footsteps of cognitivist and behaviorist CAI, but the most popular titles (e.g., Oregon Trail, Carmen Sandiego) were not as closely tied to learning theory as were the CAI efforts of the 1960s and 1970s. The educational software market eventually faded in the 1990s and 2000s as the more lucrative entertainment and productivity markets captured the interests of commercial software companies.

Today, it would appear that very little trace remains of the teaching machine movement of the 1960s. None of the hardware remains in schools; the only place one can buy a Skinnerian teaching machine is from a junk dealer or an online auction site. Yet the absence of the hardware belies the fact that the basic technology of the teaching machine is still going strong. Behaviorism may be moribund as a theory, but a significant proportion of today's best-selling educational apps employ a frame/reward design and move children gradually through a predefined program. On the level of substance, the only difference between these programs and the Skinnerian teaching machines is that the reward system of the newer programs is substantially more compelling. Whereas a teaching machine might have rung a bell as a reward, a contemporary piece of educational software may offer fun animations, praise, and a numerical score, all amid a package of flashy graphics, a bouncy soundtrack, and a dash of social media integration. It is tempting to assume that the failure and disappearance of teaching machines stemmed from the narrowness of behaviorist educational theory, but its failure may actually have been due to the inadequacies of 1960s technology. In their new, revitalized form, teaching machines may well continue to have an effect on the educational landscape for some time to come.

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See also Behaviorism; Cognitive Revolution and Information Processing Perspectives; Technology and Education

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Technology and Education

There is an apparent but misleading simplicity to the concept of technology in education. Yet technology plays multiple roles in education and needs to be understood in terms of how it integrates with the entire learning ecosystem.

To a contemporary educator, "technology" may simply imply the use of computers, perhaps in the guise of the Web, tablet computers, or digital cameras. Yet for a previous generation, "technology" meant other audiovisual tools, such as slide projectors or tape recorders. So conceived, technology might mean any device designed to make learning more effective. The focus then is on the benefits and costs of introducing that device into a classroom. Usually, the device so introduced is new for the user. Thus, a network router is a technology, but a book, chalkboard, or poster is not. A challenge for analysis is that for later generations, today's technology may become invisible as the focus shifts to the latest device.

The design of any tool reflects not only its ostensible function but also the sociopolitical context in which it is used; and people adapt a given technology for purposes other than that for which it was intended. This entry explores the complex relationship between technology and education and the ways in which the nature of learning itself is deeply enmeshed with the available technology. It also considers how contemporary technology for learning is affecting, and in turn is being shaped by, classroom practice.

Conceptions of Technology

There are larger conceptual problems with the above-stated view of technology: It leads to conclusions about the effects of technology that are tied to particular devices but do not reflect underlying processes. The benefits and costs of technology are then constrained to what happens to be considered technology at a given time. Most important, this view obscures the relations among values, aims, methods, and evaluation in education. It also makes it difficult to assess the various relations between technology and education, three of which stand out: (1) learning through technology, (2) learning how to use technology, and (3) learning about technology.

First, any form of education involves *technê*, what Aristotle calls the concern "with bringing something into being." Thus, technology in education is the craft by which we accomplish education. It includes not only physical devices but also instructional procedures, formulations of curriculum, pedagogical heuristics, as well as the shiny devices that we regularly employ, often with great hope and future disappointment. The most iconic artifacts of education—books, chalkboards, math tables, notebooks, and bells—are technology, as are the ideas of semesters, 50-minute periods, grade levels, and standardized tests. Thus, technology is not an add-on to education; it is what we do when we enact education. We might call this the way we learn through technology.

It is important to note that, in general, we need to consider not one device or procedure but an array of them, each with its own rationale and history, and which interact in complex, often unpredictable ways. Moreover, we need to understand that array in the context of a learning ecology.

Consider just one of many such examples. The *Boston College Educational Seismology Project* offers an opportunity for students, teachers, and their communities to learn through direct involvement with scientific research. The project is operated by Weston Observatory, a research laboratory at Boston College. Inexpensive seismographs are set up in K–12 schools, colleges, and public libraries. Students can view, in real time, seismic disturbances caused by distant earthquakes, hurricanes, nearby construction, trucks passing by, or students jumping up and down. Through an inquiry-based learning

approach, students can study their own seismograph, compare its output with others through the Web, and correlate what they find through online sources. For example, the U.S. Geological Survey has free videos, simulations, data sets, maps, imagery, publications, and other learning tools.

Seismology is an interdisciplinary science that requires understanding a wide range of concepts in mathematics, physics, chemistry, biology, paleontology, astronomy, and other areas. Hands-on activities, field trips, construction of seismographs, and other approaches can be coupled in the learning ecology with the seismograph per se. Seismology also implies learning about how the natural environment affects society and vice versa. Thus, a project such as this offers possibilities for introducing students to the nature of scientific inquiry and to the importance of science in their lives. It also supports experiential learning and communities of learners, teachers, scientists, and the larger public.

At the same time, what the project means in a given setting depends on far more than the seismograph, computer, network, and other hardware, or even the curriculum and instructional activities. Placement in a public library has consequences different from those in a school. Involvement of parents and others in the community can make an enormous difference. Relations between libraries, schools, community groups, the university, and others are more determinative of what occurs than the technology in a narrow sense. One might well ask which students have access to tools such as this, where access has to include all aspects of support, not just the devices themselves. An example like this shows that if we seek to understand the meaning of technology for education, we need to move beyond questions such as "How effective is it?" and to consider questions in the realms of political economy, sociology, curriculum, and more.

Second, the argument that technology is the means of education holds an analogy that implies a second relation. The enterprises that we engage in beyond the learning setting are themselves complex and ever changing. They too involve diverse arrays of technology, so much so that it makes little sense to talk of learning about the enterprise without learning those technologies. For example, any of the sciences today are deeply enmeshed with technology. Biology as we now know it could not exist without various types of microscopes and imaging tools, gauges to measure physical and chemical processes, seismometers to study land formations, simulations software, visual displays, and computerized databases of proteins and DNA. To learn biology means to learn these technologies, not simply the results that they produce. The social sciences, humanities, business, and other enterprises have always depended on the technologies of their day—books, maps, charts, tables, concordances, dictionaries, and so on. The changes in their practice with new technologies, such as digital texts or geographic information systems, similarly call for new kinds of learning about those new technologies. Thus, we need to learn how to use technology as well as to use it as a tool to learn other things.

Third, the way that technologies are involved in all human activity means that education implies the need to learn about technology. For example, the political revolutions of 1848 spread across Europe rapidly because railways and steamships served as more than transportation; they were communication tools. The Twitter revolutions of today occur in different ways, but both depend on, are shaped by, and shape the means of communication. Wars are increasingly fought through cyberspace, including hacking of government sites and propaganda campaigns contested through Twitter hashtags.

Though we may think of writing as a cerebral activity, far removed from the world of things, it has always been material, whether involving inscriptions on Sumerian tablets or gestural expression in a virtual reality theater. New technologies mean that the writing continues, but it does so with new configurations of connectivity (e.g., one–many communication becomes many–many), and new modalities arise, including video, animations, real-time graphics, interactive maps, and geolocation.

Daniel Headrick shows through numerous examples how examination of the information and communication tools of an era helps us understand why and how changes occur. He makes a good case for the idea that the information age began as people developed better tools for handling information, such as time zones, postal codes, encyclopedias, and latitude and longitude lines. Computers enabled speeding these tools up, but the fundamental operations were established long before. Because history is in part an account of how our doings change, it is perforce a story of technology. Thus, if we are to learn about virtually any topic, we need to understand the evolution of the relevant technologies.

Understanding these changes is part of what it means to learn about technology. But that challenge is not limited to communications.

Technology's role in medicine, manufacturing, business, sciences, and all other realms of life needs to be understood, raising as it does social, ethical, political, scientific, epistemological, and practical issues of daily life.

Technology and Social Relations

Technology thus manifests complex relations with education. These relations necessarily invoke political and ethical questions, starting with the very construction of a tool. Although we may describe a tool in simple functional terms, its design reflects, and tends to reinforce, a sociopolitical context.

For example, the simple American Standard Code for Information Interchange (ASCII), representing letters, numerals, and other symbols, has been widely used as a standard format for computers. To some, the code appears uncontroversial, almost self-evident, for example, A = 65, B = 66, C = 67, and so on. Yet the code is limited. To minimize memory demands on early computers and physical demands on input/output devices, it requires just 8 bits of information. This means that only 128 characters can be represented. As a result, the $ (36) can be represented, but not the € or ¥. All of the uppercase and lowercase letters used in English are there, but not the ñ of Spanish, much less the characters needed for Arabic or Chinese. In general, these choices were ramified in keyboard design, printers, and display technologies. The early teletype, the ASCII code, algorithms, computer training, and more served to reify what counted as plain, ordinary, or natural. Increases in the capacity of computers and network, plus awareness of the limitations of ASCII, led eventually to the implementation of Unicode, a 16-bit system. Unicode is far more versatile and is used in almost all new information processing systems, though it is still not truly universal.

The limitations of ASCII meant that English-speaking computer designers and users in the United States had advantages that reinforced that country's early entry into the digital era. The technology also connotes ideas about what is direct, simple, and natural—assertions that have no basis beyond the design choices, yet have power in social relations and identity formation. The desktop metaphor itself is not politically neutral, nor are most other aspects of any technology. Information itself is increasingly commodified. Corporations have recognized the resulting economic value and now seek to control its production, transmission, and consumption. This is leading to political and economic changes, including the growth of a transnationalizing culture industry.

"Digital" has come to signify global interconnection and the path toward the future for diverse populations. However, even with technologies such as Unicode, the "universalist" presupposition of the digital is questionable. On the periphery, there are alternatives, such as the free software movement or rural hack lab spaces in Peru where Latin American software activists collaborate, engaging distinct materialities of history, culture, nature, politics, and information. Such alternatives show how the choice of technology and its use is far from value free. The alternatives represent significant challenges and opportunities for global understanding and truly public education.

Continual (Re-)Creation of Technology

Scholars of technology in education often speak about affordances and constraints. The term affordance was introduced by J. J. Gibson; it means an action possibility posed by an object. For example, the handle on a coffee mug offers the possibility of secure lifting without burning one's fingers. However, it only suggests that possibility. One could choose another means of lifting the mug, or not lift it at all. Affordances seem like an unalloyed good, but they may cause problems when they incline a user toward an inappropriate path. Consider the case of a site for making web pages that encourages the use of multiple fonts and clashing design features. The affordance of freedom to create may not work best for a novice. Or, think of a web resource that foregrounds the "progress" perspective of westward U.S. expansion versus one that foregrounds the perspective of indigenous people.

Conversely, a constraint makes it difficult to carry out certain actions: Early word processors had no simple means for including video. With more advanced tools, many people can now write with video, intermixing video elements, audio voiceovers, and conventional text. Constraints can also be useful. For example, a science simulation might simplify a complex process, thereby constraining the operations a student can carry out, but making it easier to learn basic aspects of that process. A question for any technology in the classroom is thus what affordances it offers and what constraints it imposes. Following that, one may ask how those affordances and constraints relate to pedagogical goals. Moreover, neither the affordances nor constraints are fixed.

When people do use a technology, they often change it from what the designers intended (the idealization) to their own technology-in-use (the realization). In some cases, they *reinterpret* the technology. For example, graffiti tags do not change the physical and functional aspects of a building, but there is a semantic claim to possession of the space as a canvas for art, cultural resistance, or criminal turf war. In a classroom, a teacher may use a general purpose word processor as a display tool or for students' creative writing, language drill, or playing games. In other cases, users may significantly adapt the technology's semantic association and use. For example, cassette tape players were marketed to Bedouins in Egypt for listening to music from the dominant Egyptian majority. The users discovered the unused recording capability and began to record their own songs, leading to the rise of a Bedouin pop star, and eventually the creation of new economic and cultural opportunities. Finally, there can be reinvention, which changes the semantics, use, and structure. Although automobile shock absorbers were originally produced to reduce shock, to soften the ride, Latino mechanics developed methods for attaching them to air pumps and use them as shock producers. The new functionality in the resulting low-rider cars violates both marketing and design intentions. What this means for the classroom is that the new technology is not simply an independent variable causing certain effects; it is also a dependent variable, something that gets shaped by the classroom culture.

Technologies for learning have constrained flexibility. They are cultural artifacts manifesting the social relations, beliefs, values, and economics of those with the power to create and implement them. On the other hand, educational or any other use may alter those relations. Ideology, and ultimately political economy, is thus woven through the process of technology. It influences the design of technologies based on the purposes and values of the designers or the buyers. This includes explicit values such as assuming that e-books are the future, that they represent a cost savings, and that therefore all students should learn using e-books rather than paper. Second, ideology affects the distribution of technologies, including how much is worth spending for different groups of students. There may be semihidden assumptions, such as that low-performing students need drill-and-practice software, whereas high-performing ones need software for creative use; and there are questions of access. Third, it affects the use of technology, including the learning subject areas in which it is applied and the purposes. Finally, it affects how we interpret the effects of technologies. For example, a literature student could find a Shakespeare quote quickly on the Web. However, the instructor might deem this easy access as negative if the use of quotations was supposed to be an indicator or instigator of deep reading.

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See also Intelligent Tutoring Systems; Learning, Theories of; Teaching Machines: From Thorndike, Pressey, and Skinner to CAI; Technology and Society, Critiques of

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Technology and Society, Critiques of

A critique of technology and society is a systematic examination of the problematic relationship between technology and social change. Several sizable disciplines—including the philosophy of technology, science and technology studies, and feminist philosophy—regularly engage in this type of analysis. To complicate matters further, many educational theorists have discussed how school curricula should respond to the prevailing technological environment. Hence, it is impossible to encompass the full scope of critique in this entry, which will offer only a sketch of some of the most influential genres of critique that have emerged over the past 150 years. Adapting a classification developed by the philosopher of technology Andrew Feenberg, the critiques may be grouped into five categories: (1) determinism, (2) substantivism, (3) instrumentalism, (4) left dystopianism, and (5) constructivism. After a brief description of each type of critique, the entry outlines some of the key ideas of the principal exponents of these theories and describes some implications for education.

Determinism

Technological determinists, a group of thinkers among whom Karl Marx is the most prominent, believe that the state of technological development determines to a significant extent social (including educational) and political forms. For example, in the case of 19th-century industrial mass production technology, the nature of production is such that there are many unskilled and semiskilled laborers who run the machines and relatively few factory administrators. This division of labor is thus determined by the nature of the technology itself; it spawns a particular set of social and political forms that grow up around it, and it leads to schools having the function of producing docile workers. In the case of industrial production, a relatively small class of owners will likely develop, with a large class composed of the workers who run the machines. Thus, according to this theory, the prevailing social arrangements are heavily influenced by the state of technological development.

In keeping with this view, different sets of productive technologies would tend toward different social results. The technologies available to hunter-gatherer societies, for example, produce a division of labor that is far less marked. Everyone in the tribe has to engage in a variety of productive tasks, and little in the way of surplus available. This set of productive technologies, therefore, results in a more egalitarian social framework.

According to the determinist view, as new productive technologies are invented, these technologies spawn new divisions of labor, which are in substantial conflict with the older social forms. The 19th-century battle between small-scale industry and large-scale industrial production is a paradigm case of this conflict; the older social forms that corresponded to the older technology put up a fierce resistance but were eventually largely swept away. Still, this does not mean that human agency is ruled out entirely by determinism, as these social changes can be brought about more or less rapidly, depending on how groups in the society organize themselves to resist or promote the change.

Although Marx and other determinists are often critical of the social forms resulting from technological change, they do not think that technology itself is inherently problematic. Determinist views of technology vary from positive to neutral; new technologies bring new divisions of labor, which then stimulate the development of new social forms, which precipitate conflicts between the old and new social forms. There is also little room for collective human agency in terms of the development and employment of technologies. The expansion of our productive capacities is an essential element of being human for Marx, and each generation inevitably

builds further on the productive forces of the previous generation. There is no possibility of collectively deciding to abandon productive technology; once we have it, we do not give it up.

Substantivism

Substantivist critics of technology share some ground with the determinists in that they regard technology as largely beyond collective control, but they differ radically in their assessment of its value. The substantivists believe that modern technology is value laden in a profoundly negative sense because it brings with it a reductive and destructive way of thinking. Two of the most prominent examples of the substantivist approach are Martin Heidegger and Jacques Ellul.

Heidegger's (1954/1977) best-known work on technology is a short essay, "The Question Concerning Technology." Heidegger begins the essay by noting that our modern modes of production constitute a substantial change from previous craft production. Heidegger suggests that in ancient times, craftsmen paid careful attention to the material, form, and intended use of what they produced; he calls this mode of production "bringing-forth." Modern technology, by contrast, is characterized by a mode of production that Heidegger calls "challenging-forth." When one thinks in the mode of challenging-forth, one "sets upon" nature in a dual sense—the sense of ordering nature to one's own ends as well as the more sinister sense in which a hungry animal would "set upon" its kill. When thinking in the mode of challenging-forth, things are stripped of their aesthetic value and reduced to the status of a mere resource. For the person thinking in this way, a forest is not a place with its own right to exist or with aesthetic value but is simply a certain quantity of lumber.

Heidegger does not leave much room for human agency in his account of the thinking behind technology. To use a Heideggerian phrase, we are "always already" trapped in a particular orientation to the world that allows us to think in the mode of challenging-forth and in other reductive ways. Heidegger calls this broad orientation enframing (*Ge-Stell*), and he believes that we have been caught up in it since the beginning of modern production. Heidegger alludes to the possibility of alternatives to this technological trap, but these approaches would require, at a minimum, coming to grips with the dominant technological paradigm, which is challenging due to the fact that it is invisible to most people.

A vital distinction for Heidegger and other substantivist thinkers is the difference between technology as a way of thinking and particular technological artifacts. For Heidegger, it is not this or that machine that is significant as far as modern technology is concerned; it is, rather, the presence of a particularly destructive way of thinking that lies behind the employment of machines that is concerning. In other words, it is the overall orientation toward the world that lies behind technology that counts, not the particular technologies themselves.

Although Heidegger is the most well-known exponent of the substantivist critique of technology, Jacques Ellul, a French social theorist, is less obscure and more convincing in his analysis, which can be found in *The Technological Society* (1964). Ellul, like Heidegger, is concerned about a particular way of thinking, which he calls *technique*. Technique can be defined as the ensemble of the efficiency maximization efforts that have been applied to diverse domains of our lives, including, most obviously, machinery but also in workplaces and in social institutions like schools and government. Thus, wherever there are efficiency maximization efforts, there is technique.

Ellul exhaustively traces the development of technique in various sectors, including the economy, the state, and education. Like Heidegger, he believes that this phenomenon is basically autonomous and field independent. It doesn't matter what is being rationalized, whether it is a factory, a university, or a government department; the important thing is that efficiency be maximized. Due to its incredible effectiveness, this criterion overrides all others and assimilates all other discourses to itself. The only thing to which technique must adapt itself, Ellul thinks, is biological and physical laws. Even here, one can modify the process itself to work around the inefficiencies of biology and physics. If the human need for sleep slows down production, one simply produces the product with machines, and if bread does not rise consistently within the factory, one changes the ingredients of bread so that it does.

Ellul offers no possible solution to his pessimistic diagnosis in *The Technological Society*. If humans attempted an act of mass resistance or destroyed themselves through a nuclear holocaust, escape from technique might be possible, but Ellul actually sees the latter situation as being more likely than the former. He sees nothing in the current world situation that might warrant any hope whatsoever

for escaping the phenomenon of technique and believes that technique will continue to develop autonomously.

Instrumentalism

Instrumentalism, in its most basic sense, is the commonsense view that technology is a neutral tool that we control. This view represents the polar opposite of the substantivist conception held by Heidegger and Ellul. Since the basic instrumentalist view is so widely held, few philosophers have made an effort to espouse it explicitly.

John Dewey, however, offers a more philosophically interesting version of instrumentalism. As Larry Hickman explains, Dewey views abstract ideas and social practices as tools for addressing felt difficulties, much as a shovel or a paintbrush is a tool with which one would resolve a problem in everyday experience. The process of inquiry, broadly considered, is how humans deal with problems arising from experience, and technology, in the broad Deweyan sense of the term, plays a key role in this process in that it provides the tools for dealing with the difficulties. For example, in Deweyan terms, the idea of justice is a technology that could be used for thinking through a variety of problems of both the everyday and the highly theoretical variety. Inquiry also involves the reconstruction of the tools themselves to refine the existing tools or possibly create new ones. Philosophy is a fundamental part of this process as far as conceptual technologies are concerned. In his classic educational writings, Dewey describes how the elementary school curriculum, embodying activities and inquiry focused on "occupations" common in the external social environment, can equip youngsters with the skills and background knowledge to understand the technology of their times.

Although Dewey is rather moderate and conventional in his criticisms of technology (especially when compared with thinkers like Heidegger and Ellul), Deweyan instrumentalism nonetheless provides an interesting platform with which to launch critiques that are sympathetic to some of the concerns of the substantivists. If, for example, one looks at Ellulian technique as an intellectual technology that has run amok and that may need to be radically reconstructed or discarded, one can see the critical potential of Dewey's point of view. Dewey's perspective has the additional merit of offering more hope for human agency in dealing with the challenges that technology presents to contemporary life.

Left Dystopianism

Left dystopianism describes a broad set of views that are deeply critical of technology and see it as nonneutral but that do not hold that technology is autonomous in the way substantivism does. Given the large number of thinkers who fit within this category, this account must be limited to Herbert Marcuse and Michel Foucault, two of the most prominent individuals who can be classified within this group.

Marcuse was a student of Heidegger, and while he does not reprise Heidegger's substantivist thinking about technology, he does adopt Heidegger's intensely negative outlook on modern society. Writing in California in the 1960s, Marcuse saw a society that had been anaesthetized by consumer culture. The class antagonisms in which Marx had seen revolutionary potential had been smoothed into a mass consumer culture in which everyone, from the rich professionals to the poorer workers, had similar sets of preferences. Technology in the machine sense was necessary for the rise of this culture, but it is the social technology of the mass consumption/mass production society that really preoccupies Marcuse. Whereas the workers of Marx's time felt their alienation keenly, workers in the new society genuinely believe in the consumer society and feel that they are free within it. Individuals in the new society are entirely one-dimensional; not only do they work to uphold the expansion of the productive and consumptive order, but they conform to it in their inner lives as well. The media, politics, education, and the shape of everyday work life are all implicated in the development and perpetuation of this mass leveling down of humanity.

Given this dystopian perspective, it is not surprising that Marcuse is not very hopeful about the future. Like Ellul, he thinks that the technological society is dedicated to continued expansion of its project of dominance over humans and nature, and he sees no immediate end to this. Nonetheless, he does have some hope for the future. Marcuse feels that the fact that this expansionist project is continually generating increased material abundance creates the seeds of instability within the oppressive status quo. The end of scarcity would mean the end of the rationality of the technological society's expansionism, and the breakdown of this justification could create the space for alternative visions.

Whereas Marcuse's work is best viewed as expansive social criticism, Foucault works according to a historical method in which he painstakingly analyzes the development of particular modern concepts like madness, sexuality, and punishment. Although the dominant view is that we have made progress in our understanding of these concepts, Foucault argues that these ideas have, in many ways, become far more oppressive as they evolved over time. For example, in his investigation of punishment in *Discipline and Punish* (1975/1995), Foucault notes that in the 18th century, the dominant practice was to enact spectacular public penalties that would impress on the people the seriousness of the crime committed. This method, however, was not particularly effective at producing public order and often backfired when the spectators responded sympathetically to the prisoner. In his analysis, Foucault shows how we have moved from these primitive beginnings to techniques of order and punishment that, while involving less overt violence, are insidious, oppressive, and pervasive. His famous example is that of Jeremy Bentham's Panopticon, a proposed prison in which prisoners could be monitored at all times, the better to reform their behavior. In the same work, he also documents how disciplinary power was deployed in schools both in examinations and in everyday classroom life.

Throughout his work, Foucault demonstrates how the human sciences' creation of concepts and categories enables the development and exercise of what he calls power/knowledge. By creating a particular scientific category (e.g., the delinquent), the human sciences not only develop new knowledge but also simultaneously begin to be able to exercise normalizing power on the people found within that new group. Like Marcuse, Foucault did think that resistance was possible, and he urged that people learn from the experiences of those who had been subjugated and marginalized by the system. Intellectuals should not aspire to create new utopias, which would simply create fresh oppressive schemas, but they should rather work to expose the contradictions and tensions within the existing system, much as Foucault did in *Discipline and Punish*.

Constructivism

Constructivism, which shines a critical light on the social processes that underlie the development of scientific facts and technological objects, has a strong kinship with Foucaultian ideas. In his pioneering *Laboratory Life* (Latour & Woolgar, 1986), Bruno Latour, a leading figure within constructivism, attempts to trace what he calls "the construction of a fact" within a scientific laboratory. He traces how people use machinery and various kinds of social relationships to bring a statement from a shaky hypothesis to the point where it is an unquestionable fact. In *Science in Action* (1987), Latour applies the same analytical frame to technology, showing how a technology moves from a shaky prototype or offbeat invention into something that everyone feels compelled to use. Latour argues that science and technology are usually conceived of as developing autonomously—in other words, people think that scientific and technological developments simply spring up and then diffuse (or fail) on their own merits. This, he argues, ignores the intricate social processes of construction that make facts seem solid and inventions seem necessary.

Latour is keen to create the capacity among citizens to resist the apparent necessity of scientific and technological developments, and he hopes to do this by revealing the construction processes going on behind the scenes. In recent years, feminist science and technology scholars have taken a critical approach that has some similarity to this approach. In a much-cited essay, the anthropologist Carol Cohn analyzes how defense scholarship has developed a scaffold of sexist and antiseptic concepts to enable comfortable theorizing about technologies of mass violence and death. Other examples of critique in this vein include those by the philosophers Helen Longino and Rebecca Kukla, who examine some of the gendered choices that lie behind theoretical frameworks in science and in the medicalization of the birth process, respectively. Approaching the issue from the standpoint of citizenship, Sheila Jasanoff calls for a public assessment of technologies that subjects them to a broader set of analyses that includes both an analysis of how the technological problem is constructed as well as a wider, more thorough assessment of costs. All of these scholars are keen to shed more light on the choices that lie behind every practice of science and technology and to point out how those choices could be otherwise.

David I. Waddington

See also Apple, Michael; Critical Theory; Dewey, John; Foucault, Michel; Heidegger, Martin; Marx, Karl; Reproduction Theories

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Theories of Action

Theories of action are theories that link behaviors or actions with both the beliefs and values that give rise to them and their intended and unintended consequences. They are theories, like any other, in the sense that they provide an account of the relationships between a series of claims—but in the case of theories of action, the claims are about how to act, under particular conditions, in order to achieve the intended consequences. From the point of view of the observer, a theory of action explains a person's action by identifying the reasoning that produced this action rather than alternatives. From the point of view of the actor, a theory of action is a theory of design—it specifies how to achieve what one wants in a given situation. Since actions occur at individual, interpersonal, organizational, and even societal levels, the concept of a theory of action applies to any of these units of analysis.

Components of a Theory of Action

Theories of action were first described by Chris Argyris and Donald Schön in their now classic 1974 book *Theory in Practice: Increasing Professional Effectiveness*. Some of the properties of a theory of action are best described by using an example. Take a chief executive officer (CEO) who decides to introduce a major change in his organization by describing the need to adapt to increasing competition and new market opportunities. His speech focuses exclusively on the future but provides no explanation of why a radical restructuring of current operations is required to meet the challenge he describes. Staff members are left puzzled about why the CEO is, in their view, trying to fix something that they believe is not broken. They resign themselves to more change for change's sake. The explanation for the CEO's behavior (he provides only a future-focused rationale for change) lies in his theory of action—the goals he wishes to achieve, his implicit assumptions about how to be effective in such situations, his desire to be positive, and his belief that an evaluation of the current organization would be seen as negative. This complex theory leads him to avoid any explicit reference to the shortfalls of the organization's current practice. Such discussion is ruled out by his desire to be positive and by his assumptions about what that value implies.

Theories of action have three components. In this brief example, the theory of action of the CEO can be summarized as follows: "Get the staff on board by stressing positive future opportunities and avoiding criticizing current practice." The first component is values and associated beliefs—the desire to be positive and avoid the negative. These values explain the observed actions (the second component), including the fact that the CEO did not disclose his evaluation of

the current organization because that would have violated his value of avoiding the negative. The third component of a theory of action comprises the intended and unintended consequences of the actions—in this case the staff's understanding of the future challenges (the intended consequence) and the belief that these could be met without the radical change proposed by the CEO (an unintended consequence).

Two Types of Theories of Action

The distinction between two types of theories of action is fundamental to a correct understanding and application of the concept. *Espoused theories of action* are those that people claim, believe, or report to be the basis of their actions. When leaders describe how they intend to lead a meeting, or report on how they believe they have led a meeting, they are describing their espoused theory of meeting the leadership. *Theories-in-use* are the theories of action inferred from how people actually behave, as directly observed or recorded through audio or video recording.

This distinction between espoused theories and theories-in-use has important implications for research methodology. Data obtained from questionnaires, interviews, focus groups, diaries, or any other type of self-report provide evidence about people's espoused theories and should not be used to draw conclusions about actual actions and practices. Such inferences can only be drawn from the evidence provided by recordings, observations, or carefully checked behavioral reports. Many studies fail to make the distinction between espoused and in-use theories of action and draw mistaken conclusions about practice from interview and questionnaire data.

While obtaining data about actual practice is an essential step in constructing an actor's theory-in-use, information is also needed about the reasoning that explains the behavior. Since this reasoning is usually tacit, particular care is required in making it explicit and in testing the validity of the resulting inferences. The researcher must probe beyond actors' immediate justifications and establish that the explanations they have put forward actually rule in the observed behaviors and rule out the use of other possible responses. Case studies that include a careful explanation of such methods are available in many of Argyris's books.

A theory-of-action approach has also been taken in case studies of school leadership, policy implementation, and program evaluation. The contribution of such studies goes well beyond identifying the familiar discrepancy between policy and practice or between program objectives and program implementation. By revealing theories-in-use, such studies identify the reasoning and logic that account for these discrepancies, and provide important clues about what is involved in their reduction. If all human action is anchored in theories of action, then learning about such theories would seem to be the first step in understanding what is involved in change. The target of interventions is not behavior per se but the theories-in-use that sustain it. In many cases, especially when resistance is anticipated, accurately identifying such theories should be the first step in the design of intervention strategies.

The degree of congruence between espoused and in-use theories of action is a matter of empirical investigation. There are at least two reasons why large discrepancies are common. First, our tacit and largely automatic reasoning processes operate at high levels of abstraction, so our self-reports and private reflections are seldom grounded in our actual words or actions. If we practice abstract rather than behavioral reporting, we may lose the ability to recall the grounds for our inferences and attributions, and our reflections and reports will be informed more by our espousals than by our actual behavior. Second, norms of politeness and face-saving prevent us from pointing out the discrepancies we perceive between our perceptions of others and their self-perceptions. Both of these factors serve to keep us blind to the discrepancies between how we see ourselves (our espoused theory) and how others see us (theory-in-use).

Evaluating Theories of Action

Theories of action, like any type of theory, are more or less adequate. The CEO's theory of how to introduce change is one of many possible alternatives. He could, for example, have chosen to disclose rather than withhold his views about why restructuring was needed to meet the competitive challenges he foresaw. How does one evaluate the adequacy of competing theories of action? What criteria are relevant? Argyris and Schön propose three metalevel criteria, that is, criteria that are applicable to all theories of action regardless of their content. The *congruence* criterion evaluates the extent to which a person's theory-in-use matches the espoused theory. In layman's terms, this is equivalent to judging whether the person "practices what he preaches." Although congruence is desirable because it signals self-awareness and authenticity, it is insufficient for

evaluating theories in action. There is nothing particularly desirable about acting congruently with an unjust, controlling or self-limiting espoused theory. Similarly, there may be much to admire about individuals whose behavior falls short of the high standards of professional and ethical practice that they espouse. Such incongruence can provide a powerful incentive for learning and improvement.

The second criterion evaluates the *effectiveness* of a theory of action. Such theories are effective when the actions taken achieve the intended results. The CEO wanted to focus the staff on future challenges and opportunities and to do so in a way that was positive and generated enthusiasm for change. His theory would be judged ineffective if his staff were left feeling skeptical and suspicious rather than enthused and energized.

The third criterion for theoretical adequacy recognizes that *goal achievement*, like congruence, can be problematic. If goals are not necessarily desirable, then achieving them is not sufficient for claiming an adequate theory. Theories of action have powerful effects on the world, so a criterion that judges the quality of the world they create is a central consideration in their evaluation. The CEO may have achieved his goal of motivating his staff, but what are the long-run consequences of a theory of action that suppresses discussion of current problems and labels it as negative talk? By considering the behavioral world created by a theory of action, the evaluator steps outside the values and goal of the particular theory of action to take a wider view of its implications. This third criterion, which involves judging the value of the behavioral world created by the theory-in-use, raises normative questions that go beyond the assumptive framework of any particular theory.

This third criterion means that theory improvement not only involves adjusting behavioral strategies to achieve desired purposes but can also include revision of those very purposes. Based on the writing of the pioneering systems analyst Ross Ashby, Argyris and Schön called the adjustment of behavioral strategies single-loop learning and revision to central values and purposes double-loop learning. It is double-loop learning that offers the possibility of going beyond the status quo and of transformational change. We turn next to the empirical work that has led Argyris and Schön to conclude that the vast majority of people hold theories of action that prevent them from engaging in double-loop learning.

Model 1 and Model 2

In a 50-year research program on theories of action, Argyris and Schön gathered hundreds of transcripts of meetings in which staff of both profit and not-for-profit organizations addressed significant challenges and made key decisions. Their analysis of the transcripts showed that the theories-in-use employed by the staff at these meetings had so much in common that they exemplified a generic, well-nigh universal theory. Regardless of race, gender, age, or experience, the same set of *interpersonal* values and assumptions were evident. This "master program," which they called Model 1, was characterized by three main interpersonal values: (1) define goals and try to achieve them, (2) maximize winning and minimize losing, and (3) avoid generating and expressing negative feelings. These values give rise to commonly observed action strategies such as unilateral management of the task (e.g., imposition rather than negotiation of goals and purposes), unilateral management of the other person (e.g., privately deciding how he or she should be treated), unilateral protection of self (including defensive strategies such as blaming others rather than considering our own contribution to the problem), and unilateral protection of others (e.g., withholding or disguising negative feedback). The consequences of such Model 1 values and strategies include low-quality decisions made on the basis of censored information, low commitment to those decisions, increasing mistrust, and limited individual and organizational learning.

The prevalence of Model 1 is partly explained by the limitations of human memory and information processing capacities. Talking in abstractions, making leaps of inference, disconnecting those inferences from supporting reasoning and evidence, and noticing confirming and not disconfirming data enable us to make sense and act quickly. The price we pay for this efficiency is that we make mistakes, and it is easier to spot those made by others than by ourselves. Put these cognitive capacities (or incapacities) together with a socialization that teaches that public detection and correction of error is threatening, and we have the recipe for the Model 1 organizational world that Argyris describes.

Model 1 lies in stark contrast to the interpersonal values and behaviors of Model 2—an interpersonal theory of action that is widely espoused but seldom practiced. The central value of Model 2 is that of truth seeking—the quest to improve the quality of our reasoning about ourselves, other people, and the

work we do. If thinking is to be improved through open debate and critical scrutiny, then people need to be free to express their views, to make informed choices, and to take responsibility for monitoring the consequences. The behavioral strategies associated with these Model 2 values are joint design of situations, so that people experience high personal causation, joint rather than unilateral control of tasks, and bilateral rather than unilateral management of emotions, so that people are protected without sacrificing learning. In Model 2, views are held openly, differences are welcomed as opportunities to test validity rather than to persuade, and power is shared so that what is relevant and productive can be jointly determined. Double-loop learning is possible because problem solving is valued above preservation of the status quo, and the difficulties of change are discussable and managed in a way that cares for the task and the people without unilaterally sacrificing either.

Conclusion

Theories of action are perhaps the most powerful of all our theories, for they solve our practical problems of how to achieve our purposes. They guide our own actions, provide explanations for those of others and, most important of all, shape the interpersonal and organizational worlds in which we live. When perceptions of mistrust are acted on in nonlearning ways, they create more mistrust; when the same perceptions, under a different theory of action, are disclosed and respectfully tested, trust increases. When the implicit theory of action in a proposed policy is made explicit and vigorously debated, the probability of the policy producing improvement is enhanced; when power relations and defensive reasoning shut down debate, the probability of improvement is diminished. Critical inquiry into the content and adequacy of our theories of action, through both real-time dialogue and more formal research, is central to the improvement of social practice.

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See also Reflective Practice: Donald Schön; Single- and Double-Loop Learning

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Theory of Mind

When trying to predict and explain people's behaviors, we often attend to their minds—that is, we make sense of others' actions by considering their desires (e.g., What does she *want?*), intentions (e.g., Did she *mean* to do it?), beliefs (e.g., She *knows* what happened), thoughts (e.g., She *thinks* this will work), and emotions (e.g., She feels *happy*). Over the past 30 years, developmental scientists have established a large body of research on age-related changes and individual differences in children's *theory of mind*—a term commonly used to refer to reasoning about the internal mental states and emotions of self and others. This entry gives an overview of theory of mind research, including consideration of the biological bases and sources of individual differences in typical and atypical populations, and concludes by considering theory of mind in academic settings.

Understanding False Belief

The "gold standard" test of theory of mind is the *false-belief task*, first created by Wimmer and Perner (1983). Although numerous variations have since been devised, the basic core of the task is as follows. Person A places an item in Location 1 and then leaves the room; Person B moves the item to

Location 2; Person A comes back and wants his or her item. Children are asked to predict where Person A will look for the item, to judge where Person A thinks the item is located, and to recall where Person A originally placed the item. In addition to this change-of-location false-belief task, there is also an unexpected-contents false-belief task. Here, children view a common distinctive container (e.g., a crayon box). They state what they think will be inside. Then, the experimenter opens it up and shows its unusual contents (e.g., rocks). The experimenter then closes the box up and asks the child to report what he or she originally thought was in the box, what a naive person (e.g., a friend) would think was inside the box, as well as what is really inside the box.

The logic behind the false-belief task is that the only way to test whether children really understand the mind as separate from the world is to see whether they can demonstrate knowledge that people's actions are based on what they believe to be true rather than on what is actually true (e.g., Person A will search for her item in Location 1). Results from hundreds of studies indicate significant age-related changes between the ages of 2.5 and 5 years in pass rates on false-belief tasks, with most typically developing children passing false-belief measures between 4 and 5 years of age. These data have been interpreted as indicating a conceptual change in children's understanding of mind during the preschool years: They learn that people can believe and act on things that are not really true. Although the timing can vary by culture, there exists significant within- and between-cross-cultural regularity in this cognitive achievement.

Broader Topics in Theory of Mind

Although understanding false belief comprises a critical milestone in the development of mental state understanding, theory of mind encompasses intuitions about all aspects of the mind, including perception, intention, desire, emotion, belief, thinking, pretense, deception, problem solving, and consciousness. Although historically the field has focused on preschool cognition, researchers also actively explore insights about mental states during infancy, as well as how children's theory of mind continues to develop during middle childhood into adulthood.

Three- to five-month-olds show some appreciation that people's grasping behaviors reflect goal-directed actions toward objects; by 10 to 12 months, infants appear to parse people's actions in relation to their underlying goals; and by the end of the first year, infants reference adults' emotional expressions to inform their exploratory decisions. Between 12 and 18 months, children imitate the intention of an action versus the exact behavior of an adult, they less often repeat actions that appear accidental versus purposeful, and they react differently to a person who is "unable" versus "unwilling" to help. Eighteen-month-olds reveal understanding that people can vary in their preferences; two-year-olds demonstrate awareness of the presence or absence of knowledge in others, and they prefer to learn from reliable versus unreliable informants. Although some studies purport to find evidence of understanding of false beliefs in preverbal infants on the basis of their looking patterns, debates exist as to how to interpret these findings, especially considering the poor performance of two- and three-year-olds on standard false-belief tasks.

Moving forward from the toddler years, most typically developing Western children develop knowledge about mental states in the same scaled progression between three and six years of age: diverse desires, diverse beliefs, false belief, and then real versus apparent emotion (i.e., that there can be a mismatch between internal feelings and outward expressions). During this same age period, children develop insights about the causal relations between different mental states; for example, that thoughts influence emotions and that emotions affect thinking. They also better understand that different people can interpret the same situation in multiple ways. Moreover, during early childhood, children gain a deeper appreciation of the relations between mind and morality—for example, that unintended rule breaking should be judged less harshly than intentional harm.

During middle to late childhood, children exhibit greater skill in introspecting on their own thoughts, they appreciate that thoughts can be difficult to control, and they develop knowledge about how mental strategies can be used for coping with negative situations. More generally, as they approach adolescence, children more carefully judge the evidence or reasons people have for holding their beliefs, the certainty or uncertainty of those beliefs, and how people's knowledge is shaped by perception, communication, and inference. Indeed, recent research indicates that the ability to reason about mental states in self and others and to interpret accurately the interpretations and emotions of others is not something "achieved" during early childhood but rather something that continues to develop across the lifespan.

Theory of Mind and Neuroscience

Advances in neuroscience have laid important groundwork for identifying a network of brain regions involved in attending to and reasoning about mental states: the medial prefrontal cortex, the ventrolateral prefrontal cortex, the dorsolateral prefrontal cortex, the right and left temporo-parietal junctions, the orbitofrontal cortex, the superior temporal sulcus, the precuneus, and the amygdala, with different types of theory of mind tasks (e.g., focusing on emotions, desires, intentions, beliefs) differentially recruiting different regions of this network. The majority of this research has been done with adults, although more recent studies using both fMRI (functional magnetic resonance imaging) and ERP (early receptor potential) have shown converging findings in children. Given that these areas are also recruited for other cognitive tasks—such as control of attention, empathy, and moral judgment—it is unlikely that these neural areas are exclusive for theory of mind.

Social Environment and Theory of Mind

Children construct knowledge about the mind through experiencing the world and communicating their emotions, beliefs, and thoughts about these life events to others. How parents and children talk about mental states, especially causes and consequences, predicts children's later ability to understand emotions and false belief, with preschoolers who are exposed to more frequent parent–child talk about mind and emotion demonstrating more sophisticated reasoning. Even mental state talk to preverbal infants significantly correlates with children's later theory of mind. Preschoolers with parents who frequently discipline via instruction, explanation, and talk about consequences also show advances in false-belief understanding compared with children less often exposed to these techniques. Additional variables shown to have significant relations to theory of mind in childhood include having siblings, especially older siblings.

Relations Between Theory of Mind and Other Cognitive Processes

One significant debate concerns the degree to which theory of mind relies on more domain-general cognitive abilities—in particular language and executive control. Components of executive control include the ability to control attention, monitor working memory, and inhibit responses. These cognitive skills may help children reason about mental states, because to pass false-belief tasks, children must inhibit their own privileged knowledge about the object's true location. Language skills aid children's task comprehension as well as help them learn about the mental world through conversations with others. Converging evidence from multiple studies reveals that individual differences in executive control significantly correlate with performance on theory of mind tasks during the preschool years and that competency in executive control precedes false-belief understanding. Recent studies further show that executive control processes remain critical for utilizing theory of mind into adulthood.

Theory of Mind in Atypical Populations

Research on individual differences in theory of mind has identified four primary populations of children who exhibit deficits or extreme delays in sociocognitive understanding: (1) children with autism, (2) late-signing deaf children, (3) children with congenital blindness, and (4) children who have been maltreated. Despite the different causal etiologies, these children share infancy and childhood years marked by difficulty establishing joint attention, low amounts of social referencing, problems attending to emotional cues, and infrequent causal-explanatory talk about mental states and emotions. These findings from atypical populations underscore the significance of early interpersonal connectedness and shared meaning for constructing knowledge about the mind. They further suggest that consistent exposure to contingent, predictable behaviors, where people's mental states are meaningfully aligned with behaviors, may be equally essential for developing a theory of mind.

Why Theory of Mind Matters

Most of this entry has centered on the development of theory of mind, rather than on how individual differences in theory of mind predict developmental outcomes. Although an extensive review of this research is beyond the scope of this present discussion, some key highlights will be mentioned by way of conclusion. The bottom line is that children's understanding of mental states and emotions matters. Children with more highly developed theory of mind have more positive interactions with peers and teachers, they are more willing to learn from others, and they demonstrate higher academic performance in preschool and elementary school than children with lower theory of mind abilities; these relations

hold even when controlling for verbal and cognitive skills. These connections are considered bidirectional in the sense that theory of mind likely is an entryway into forming positive relationships with others, but children continue to enrich their understanding of their own and others' minds through conversation, play, and negotiating conflicts.

Given the thousands of articles published each year on theory of mind, this field will continue to expand in the years to come, leading to further insight into the causes of developmental change, sources of variability, and strategies for improving theory of mind in at-risk populations. To accomplish this aim, the field needs to expand from an emphasis on infancy and early foundations to an examination of theory of mind across the lifespan.

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See also Conceptual Change; Knowledge, Analysis of; Metacognition

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TOLERATION

Both historically and conceptually, toleration remains one of the foundational characteristics that define the very essence of a diverse polity, and it is the basic virtue associated with a liberal conception of citizenship. Despite its centrality in the pantheon of liberal ideals, toleration remains a contested concept, an ambiguous principle, and an elusive virtue. In fact, there is hardly any concept in contemporary political philosophy that is more complex and controversial than that of toleration. At the same time, its educational significance continues to cause controversy in a number of areas, including citizenship education, sex education, multicultural education, and so on. In particular, the discussion over the status, justification, and limits of what is to be tolerated remains at the very center of discussion between advocates of toleration- and autonomy-based conceptions of citizenship education. This entry presents the foundational dimensions of toleration and delineates the internal dynamics of any act that claims to be an act of toleration. The concluding section of this entry brings to the forefront the various controversies over the genuine problems of toleration in a diverse polity and identifies some of the alternatives to toleration.

Foundations of Toleration

The history and development of toleration within the liberal tradition revolve around four foundational questions: (1) *why* toleration, (2) toleration of *what* (what is a legitimate object of toleration), (3) *how* to tolerate, and (4) what are the *limits* of toleration. Throughout the history of liberal political theory, a number of different and sometimes divergent arguments have been articulated to support toleration as a mechanism to grapple with the various forms of diversity that were the sources of conflict. Historically, toleration arose out of the doctrinal strife within the Catholic Church during the 16th and 17th centuries in Europe that radically transformed the prevailing forms of religious orthodoxy. The form of toleration that emerged out of the wars of religion, as Michael Walzer (1997) rightly points out, "is simply a resigned acceptance of difference for the sake of peace" (p. 10). Gradually, however, religious toleration was transformed from a pragmatic and prudential mechanism necessary for the security of peace and stability in an absolut-

ist monarchy (e.g., in medieval Europe) or empire (the Ottoman empire) into a principled commitment to the limits of the state and the reach of its institutional framework.

Conditions and Circumstances of Toleration

Each act claiming to be an act of toleration encompasses four foundational elements: (1) the *tolerating agent*, which exercises the capacity for toleration; (2) the *tolerated agent*, which is being tolerated by the tolerating agent; (3) the *object of toleration*, the source of disagreement between the two agents; and (4) the *justifying ground for toleration*, that is, the rationale—*why* the object of toleration is being tolerated.

Furthermore, any act that claims to be an act of toleration needs to be consistent with a set of background conditions that have been discussed in the literature (see McKinnon, 2006, chap. 1; Newey, 1999, chaps. 1 and 2):

1. Recognition of the disagreement over a particular belief, practice, or value that both the tolerating and the tolerated agent find important (*the importance condition*)
2. Rejection of the belief, practice, or value of the tolerated agent and its moral disapproval, that is, the existence of a doctrinal conflict between the beliefs and attitudes of the agents of toleration (*the disapproval condition*)
3. The possibility of changing the object of toleration, for example, a doctrinal (religious or ethical) belief, a value, or a particular practice carried out by the tolerated agent (*the malleability condition*)
4. Conditional acceptance of the source of disagreement between the two agents as a legitimate source of conflict (*the reasonableness condition*)

Each of the background conditions identified above is a necessary element of any act that claims to be an act of toleration. First, the importance condition basically refers to the moral cost the act of toleration has for the tolerating agent. Next, the disapproval condition depends on the evaluative judgment of the object of toleration by the tolerating agent, which results in the disapproval requiring that the tolerating agent reject the truth or rightness of the belief or attitude of the tolerated agent. Furthermore, the malleability condition refers to the very nature of the object of toleration. On some interpretations, the object of toleration can only be a self-chosen rather than an ascriptive feature of individuals' identities.

Finally, the reasonableness condition of disapproval between the agents of toleration is primarily concerned with the justification of toleration. Both early and modern advocates of toleration have offered a number of different accounts of the justification of why a particular form of diversity should be tolerated—religious, prudential, sceptical, epistemic, political, justice based, and pluralist. For example, the account of toleration exemplified by John Locke in his *Letter Concerning Toleration* is characterized by two prevailing justifications for toleration: (1) the prudential argument and (2) the skeptical argument. The prudential justification for tolerating a belief rather than using force to change the believer's mind consists in the assertion that using force is not the right way of resolving a conscience-based dispute, since by forcing someone to change his religious *belief*, we do not get the conversion for the right purpose and the newly adopted position cannot qualify as a sincere belief. In contrast, the skeptical argument presupposes the necessity of toleration on the grounds that one does not know what the right way to salvation is.

The conditions and the circumstances of toleration identified above set limits to what qualifies as an act of toleration. In this respect, toleration is to be clearly delimited from—and should not be confused with—attitudes that might have similar practical effects but are not equivalent with it at the moral level, for example, displaying civility, indifference, or resignation. Yet, despite its centrality in the history of liberal political thought, a number of objections against the foundations, nature, and value of toleration have been advanced by a vast range of critics.

Moral and Conceptual Objections to Toleration

The alleged inadequacy of toleration has been advanced on two main grounds—there are (1) the moral objections to toleration and (2) the conceptual objections against toleration. The moral objections refer to a range of alleged shortcomings associated with the morally troubling *value* of toleration: for example, the notion that toleration is insufficiently inclusive in confronting claims associated with equal civic respect for diversity—it does not give equal weight to the different values, beliefs,

and conceptions of the good present in a diverse polity. Furthermore, two distinct puzzles associated with the morally troubling character of toleration need to be emphasized: (1) the process-based puzzle and (2) the goal-based puzzle. The process-based puzzle refers to the morally troubling nature of toleration—that, for example, toleration of different and competing values, beliefs, and conceptions of the good might contribute to social fragmentation and a reduced degree of civic unity among citizens. In contrast, the goal-based puzzle is primarily concerned with the outcome of toleration. On that view, toleration fails to develop in citizens the basic civic virtues that provide us with the "conditions of liberty," including public responsibility to maintain the basic institutional framework of a diverse polity. Toleration would therefore turn out to be either *ineffective* or *unjust*.

On the other hand, the conceptual objections against toleration refer primarily to the puzzling *nature* of the toleration-based approach to diversity. For example, the inegalitarian objection raises the criticism that the tolerating agent has the power to interfere with the disputed values, beliefs, or conceptions of the good whereas the tolerated agent does not. On this interpretation, toleration is a one-way relationship with asymmetry of power between the two parties, and it is therefore implicitly inegalitarian as it does not presuppose some sort of equality between the two agents (Agent A and Agent B). At the same time, as Sanford Levinson (2003) emphasizes, toleration of diversity includes the expectancy that "exposure to diverse beliefs and ways of life over time will shift the tolerated's view towards those of the tolerator" (pp. 91–92). On this interpretation, toleration would be inconsistent with the "liberal promise," the commitment of not imposing one's values on others. Moreover, some scholars argue that toleration is a residue of nondemocratic and illiberal social orders and is therefore inconsistent with the common principles and shared public values of a diverse polity.

But perhaps the most challenging of the conceptual objections to toleration is the paradoxical objection, which can be divided into two separate criticisms. First, the paradoxical nature of toleration refers to the temporary nature of toleration and is connected with the malleability condition of toleration. Once the tolerated agent accepts the belief, practice, or value of the tolerating agent, toleration is no longer necessary. Second, one of the strongest objections to toleration has been advanced by scholars who are sympathetic to liberalism or come from liberal circles themselves (Scanlon, 2003, chap. 10). According to this criticism, the very status of toleration as a virtue is questioned since it is being depicted as negative in nature. On this interpretation, tolerating the values, beliefs, or conceptions of the good of the tolerated agent that one finds wrong or false cannot qualify as a virtue and is in itself paradoxical.

The Limits of Toleration

The moral and logical/conceptual objections to toleration open two separate dimensions of the limits of toleration that need to be emphasized here.

The Logical Dimension

The logical dimension of the limits of toleration delineates the conditions a particular act needs to fulfill in order to qualify as an act of toleration, as exemplified in the "Conditions and Circumstances" section of this entry. For example, the liberal and multicultural conceptions of the logical dimension of the limits of toleration differ primarily over what counts as a relevant object of toleration. As has already been emphasized, toleration traditionally dealt with religious and moral conflicts. In contrast, a multicultural conception of toleration can also be directed at the *identities* and not just the religious beliefs or other conscience-based commitments of individuals. The logical dimension of the limits of toleration is therefore linked to the status, as well as to the nature, of the object of toleration.

The Moral Dimension

Unlike the logical dimension explicated above, the moral dimension of the limits of toleration faces the problem of which differences should be tolerated and what are the principled bases delineating the limits of toleration. The moral dimension, then, focuses on the situation where the reasons for the rejection of certain beliefs, practices, or conceptions of the good are stronger than the reasons for their adoption. The moral dimension determines the limits of toleration and what is not to be tolerated. The classical liberal principle associated with the moral dimension of the limits of toleration is best represented by John Stuart Mill's harm principle, introduced in *On Liberty*, published in 1859: Unless certain actions, practices, values, and beliefs or conceptions of the

good violate the basic rights and fundamental freedoms of others, they are to be tolerated.

Conclusion

Both the logical and the moral dimension of the limits of toleration raise the question of the alternative to toleration. In fact, over the past two decades, the inadequacy of toleration has been argued from this very perspective. Two interpretations of this inadequacy can be identified. On the one hand, according to those sympathetic to it, toleration is insufficiently inclusive and should be expanded (internal criticism). On the other hand, according to those who oppose it (external criticism), toleration should be replaced. These two positions generate two separate alternatives to toleration: (1) mutual respect and (2) recognition (Sardoč, 2010).

As the discussion of the complexity and the controversiality of the foundations, nature, and value of toleration shows, the status, the justification, and the limits of what is to be tolerated remain contested. As Walzer (1997) rightly emphasizes,

> Toleration itself is often underestimated, as if it is the least we can do for our fellows, the most minimal of their entitlements. In fact, . . . even the most grudging forms and precarious arrangements [of toleration] are very good things, sufficiently rare in human history that they require not only practical but also theoretical appreciation. (p. xi)

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See also Citizenship and Civic Education; Liberalism; Locke, John; Mill, John Stuart; Multicultural Citizenship; Multiculturalism

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Topophilia (Love of Place)

Love of place—*topophilia*—can be defined as "the affective bond between people and place or setting." Although it is a notion that has a long pedigree in the Western philosophical tradition, it has been drawing renewed attention among educational theorists and curriculum developers, as will be outlined below.

Current scholarship in the area has devoted much of its attention toward defining "place" or "sense of place" and its presence, absence, significance, and positioning in our social, political, and ecological worlds (Gruenewald, 2003a, 2003b; Gruenewald & Smith, 2008). The result of this effort has seen the definition of place move from a concrete, situated locale to a more nuanced, complex system of relationships found within some loosely bounded area. Yet less attention has been paid to our subjective affectionate relations to place. As a result, to be successfully defined, topophilia requires a clear discussion and a subsequent coupling of its two root components: (1) a definition of *topos* ("place") and (2) the particular relationship of humans (e.g., perceptual, emotional, experiential, and ethical) toward the said place, *philia*. At the end of this process, this entry will proffer the definition of "topophilia" as the pursuit and experience of a felt sense of being at home with the relational nexus that constitutes a place.

Topos: Place

There is no universally agreed-on definition of place given questions of time, history, culture, and the

diversity of the wild, urban, rural, human, and nonhuman entities and their interrelatedness that might constitute a place. There has long been an interest in the concept of place, going back at least to pre-Socratics. But the renewed and deepening interest in place and its implications for education in North America is a reaction to the placelessness brought on by increasing globalization and its propensity to uproot people and homogenize particular localities; to educational reforms favoring placeless curricula; and to the environmental crisis, which is strong evidence of a culture alienated and in conflict with the very places it needs for its survival.

The meaning of place has taken shape against these ailments of modernity and globalization. The phenomenological tradition—for example, the writings of Maurice Merleau-Ponty—has played a significant role in past decades to integrate humans back into their environments (Abram, 1996). Edward Casey champions the importance of place and the phenomenological approach and reminds us of its insight that human consciousness is an intentional consciousness, already situated and perceptually aware of the world. Thus, "to be at all is to be somewhere and to be somewhere is to be in some kind of place" (Casey, 1997, p. ix). As a result, if nothing is unplaced and human consciousness is always "conscious of," then humans and places are inseparable. Jeff Malpas (1999) goes further, suggesting that place is not only phenomenological but ontological and is what makes human subjectivity possible. Places are the ground of Martin Heidegger's being-in-the-world. As such, place can be thought of as a nexus of relations between spatiality and temporality, subjectivity and objectivity, and self and others. Place is a relational and performative nexus that humans *construct*, but it is a nexus that also *affects* and *makes* humans. Place then has both a natural and a cultural constitution; it is a kind of socio-natural hybrid.

David A. Gruenewald (2003b) offers four additional dimensions of place that contribute to its relational hybridity: ideological, sociological, political, and ecological. The sociological dimension acknowledges that places are in part sociocultural constructions. Landscapes and wilderness areas are filled with cultural history, symbols, and a colonial past. The ideological and political dimensions of a place imply that often humans make and are made by places produced by the force of ideas and power located within their material and spatial forms. But places are not exclusively cultural and social constructions. They also are ecological—the nonhuman dimensions of a place have an efficacy independent of human subjectivity. All of these dimensions and their interrelations and intrarelations coalesce to become a definition of place. Now, topophilia is the subject's particular felt sense and desire to come home to a place through attending to this nexus of relations. This requires cultivating reciprocity, familiarity, belonging, and care between and among the myriad unique dimensions and relations that together make up a place.

Topos has played an important role in current educational discussions, such as those on place-based, environmental, experiential, outdoor, and bioregional education (Greenwood, 2008; Gruenewald, 2003a, 2003b; Smith, 2002; Stevenson, 2008). There is an active discussion that seeks to overcome the reliance on place in critical theory. And although topos as defined here relies on a critical theoretical approach to elucidate its dimensions, the addition made here with topophilia is an extension of what Gruenewald (2003a) calls "reinhabitation": Not only does topophilia, like critical place-based pedagogies, recognize, admit, acknowledge, or address our situatedness within place, it impels us to reinhabit it (to inhabit our place with new awareness).

Philia: Love Of

According to David Macauley (2006), it was Aristotle who brought together the pre-Socratic elemental metaphysics of place and the felt sense or somatic notion of "grasping towards" (pp. 193–194). Aristotle draws a distinction between topos and *topos oikeos*, suggesting that first elements (earth, air, fire, and water) and later bodies have a whereabouts, a household (topos oikeos) that which they seek to find. Macauley claims this move from one's present place to one's natural place to be an act of domestication, "the movement of each body to its own place is motion to its own form" (p. 192). Aristotle contends that place is difficult to grasp but eventually is comprehended through elemental touch and bodily contact, an epistemology of the senses. Thus, for Aristotle, every body has a natural home to be sought, which is bounded and recognized through contact with adjacent bodies. The result is that the very nature of any thing is bound to its whereabouts. Elements seek a place, grasp at their home. Topophilia shares this metaphysical notion of a household for bodies, or topos oikeos. Much like the Socratic idea that philosophy is not

the love of wisdom per se but the love of its never-ending pursuit, philia in parallel regard to topos is also about seeking to overcome our alienation and placelessness. Philia endlessly drives the search for contact with a topos oikeos, in spite of the irresolvable paradox, the constant presence of placelessness like a snake at the core (Sartre, 1943/1992) of place, that makes the topophilia project ultimately impossible to fully achieve. A humanistic topophilia is analogous to Aristotle's elemental metaphysics of a topos oikeos.

Topophilia: Love of Place

In summary, topophilia is a sensory involvement with and a desired relation to the assemblage of human, socio-natural, and wild entities and their inter(intra) relatedness in a particular loosely bounded locale. It is a state of permanent becoming, a devotion to pursuing, encountering, and understanding the relations that which coalesce to make a felt sense of place without having a preexisting concept of place. It is a commitment to seeking the relations that make us feel that we belong within the world of places, yet it acknowledges that we are always haunted by the placelessness of the human condition.

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See also Cosmopolitanism; Experiential Learning; Globalization and World Society; Heidegger, Martin; Phenomenology

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Transfer of Learning

Transfer—the successful use in a new context of intellectual, physical, or social skills, or items of knowledge, that were learned in a different context—has long been an important goal of instruction. Indeed, often it has been regarded of such paramount importance, as being so obvious a desideratum, and as being so readily achieved that it has been neither stated nor defended explicitly but has been simply assumed. This attractiveness of transfer, of course, is easy to explain: An education that does not equip students to deal with new problems or situations but that allows them only to be successful with ones identical to those met in the course of their instruction has little if any value as a preparation for living. Rarely if ever does one meet *precisely* the same problem situation again that was dealt with in the classroom.

The range of situations in which transfer has been held to occur—or expected to occur—is enormous. Plato was assuming that transfer would take place when the potential rulers of his Republic (the Guardians) received a lengthy education in mathematics and metaphysics; the ability to think abstractly in these disciplines would transfer and enable the Guardians to apprehend the abstract, transcendental realm of metaphysical reality that they needed to perceive in order to rule wisely. In the 19th century, J. H. (Cardinal) Newman (1852/1956)—appointed as rector of a new university in Ireland—made remarkable claims about the range of novel problem situations that could be dealt with by a person who had received a liberal university education, claims that assumed that transfer was unproblematic and wide-ranging:

> It is the education which gives a man a clear conscious view of his own opinions and judgments, a truth in developing them, an eloquence in expressing them, and a force in urging them. It teaches him to see things as they are, to go right to the point, to disentangle a skein of thought, to detect what is sophistical, and to discard what is irrelevant. It prepares him to fill any post with credit, and to master any subject with facility. It shows him how to accommodate himself to others, how to throw himself into their state of mind, how to bring before them his own, how to influence them. (pp. 152–153)

In our own time, the argument is still often made that students who participate in team sports such as football acquire leadership skills, sportsmanship, the ability to act unselfishly as a team member, and so forth—all of which are transferable to other situations that these individuals will meet with in their lives as citizens off the sports field. (The scandals widely reported in the press involving the antisocial and sometimes criminal activities of sportsmen—especially professionals who have been engaged in their sport for extended periods—may be taken as informal evidence that makes the claims for transfer in this particular context somewhat dubious.) A final, vexing example will be sufficient to set the stage: In studies of some students who are doing poorly in school, it has been found that while—in their out-of-school lives—they are experts in tallying scores in 10-pin bowling (quite a complex arithmetical challenge), the skills that they obviously possess do not transfer back into their school mathematics classes, where they perform badly on tasks requiring these very same arithmetical procedures.

Transfer and Mental Discipline

The aspiration to achieve transfer, particularly in the cognitive/intellectual domain, has often been accompanied by belief in mental discipline—put crudely, the view that these abilities are rather like muscles whose functioning can be improved by exercise, the benefits of which will be evident in any new context in which that muscle is used. This view is relatively unproblematic when physical abilities and their transfer is the focus; baseball players, for example, do weight training, jog, and play golf during the off-season, and the physiological benefits of this regimen of exercise transfer over to their performance on the diamond in the new baseball season. Similarly, the physical skills possessed by a gymnast will transfer over if he should take up high-trapeze work in a circus; perfecting his balance and exercising his biceps via weight training will no doubt be beneficial in both activities. It seems obvious that the closer in their key features the two domains of physical activity are, the more reasonable it is to expect transfer between them; a youngster who is deadly accurate at throwing stones might reasonably expect this skill to transfer over (at least to a degree) to the throwing of baseballs, but the skill would be of little use in swimming or in golf.

The more controversial issue, however, is whether exercising mental or intellectual abilities produces increased performance; that is, is there anything to be found in claims for mental discipline? (The exercise that, traditionally, was expected to be efficacious in strengthening the mental or cognitive abilities involved difficult, abstract, or formal material, and this regimen of training was called "formal discipline.") Does, for example, training in advanced, abstract mathematics foster the ability to think abstractly in general, as Plato seems to have supposed? Does exercise or practice even increase the ability to think abstractly in other areas of mathematics itself? Does learning the formal, abstract, dry rules of classical Latin grammar foster the ability to concentrate on complex, dry material in general, as advocates for the teaching of Classics in schools used to argue? Does training the memory by learning the vocabulary of a dead language, learning poetry by heart, or memorizing the value of pi to 50 decimal places transfer over and increase one's ability to memorize other material? And does exercise even strengthen the ability to memorize material in the domain in which the training occurs? Are, indeed, mental abilities similar to muscles?

This set of issues has been the subject of empirical investigation for more than a century, and the answer that has emerged is that transfer and improvement of an ability via exercise are both difficult but not quite impossible to achieve (although, as with physical skills, the closer the field of application is to the field of training, the more likely it is that some degree of transfer can occur—although the troubling case of 10-pin bowling scores must be borne in mind).

Empirical Studies

The psychologist, philosopher, and cofounder of pragmatism William James (1842–1910) became interested in the issue of whether memory could be improved by exercise, and he carried out the

following experiment (perhaps the earliest in this domain) on the learning of poetry, using himself as guinea pig. He selected a long piece (by Victor Hugo) and timed how long it took him to memorize the first half (158 lines). Next, he exercised his memory for 20 minutes a day for more than a month, learning passages from Milton by heart. Then, he tested himself to see how long it now took him, after this regimen, to memorize the second half of the Hugo piece. It had taken him 132 minutes to memorize the first chunk; the second half took him 151.5 minutes! By our contemporary research standards, this was not a tight piece of work, but nevertheless the results were suggestive. James's former student E. L. Thorndike, who became perhaps the leading empirically oriented educational psychologist around the turn of the 20th century, conducted an influential series of studies of transfer (centered on estimating magnitudes such as areas and lengths, where training had been given in an "allied function") and reached a similarly negative conclusion: "Studies of the influence of training . . . show a similar failure to bring large increases of efficiency in allied functions" (Thorndike & Woodworth, 1901, p. 395).

More recent studies have thrown some light on why transfer might be low, or not occur at all, between skills and knowledge that are the targets of learning in school and settings where these might be expected to be of use in the outside world—the differences between these two settings were often underestimated. (For example, if one looks past the actual arithmetical skills and focuses instead on the huge differences between the settings in which these are used, in the schoolroom and in the bowling alley, the difference in performance of some students in these diverse environments becomes more understandable.)

The words of a U.S. National Research Council (2000) report are apposite here:

> Since transfer between tasks is a function of the similarity by transfer tasks and learning experiences, an important strategy for enhancing transfer from school to other settings may be to better understand the non-school environments in which students must function. (p. 73)

During the past three or four decades of the 20th century, and into the 21st, empirical studies by anthropologists, sociologists, and others have become more common, and these have revealed the important differences between school and non-school, real-life settings where knowledge and cognitive skills are made use of. This tradition of work has shown that school settings place much more emphasis on individual work (outside settings are usually much more cooperative), they stress "mental work" as key in problem solving (as opposed to the use of physical tools and devices), and they emphasize abstract reasoning (rather than contextualized reasoning). Findings such as these have stimulated interest in educational programs that make school learning resemble much more closely the problem-based learning that occurs in real life (an idea that goes back at least as far as John Dewey's writings in the late 19th and early 20th centuries).

So where do things stand at the moment? With respect to improvement of memory, a better path to take than exercising it on dry, "formal" material is to make use of strategies for memorization. With respect to transfer of cognitive skills and information,

> simply learning to perform procedures, and learning in a single context, does not promote flexible transfer. The transfer literature suggests that the most effective transfer may come from a balance of specific examples and general principles, not from either one alone. . . . Knowledge that is taught in only a single context is less likely to support flexible transfer than knowledge that is taught in multiple contexts. (National Research Council, 2000, pp. 77–78)

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See also Faculty Psychology and Mental Discipline; James, William; Learning, Theories of; Metacognition; Newman, John Henry (Cardinal); Plato

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U

Utilitarianism

Utilitarianism is the ethical doctrine that holds that right action consists in promoting the greatest overall or average happiness. It is a particular species of the broader genus of consequentialist ethical theory. Alongside Kantian ethics and virtue ethics, utilitarianism is one of three major ethical theories that continue to dominate contemporary Western philosophy. Usually these different ethical perspectives are understood as being founded on substantively different human values and to have divergent implications for moral judgment and practice. Nevertheless, some contemporary philosophers (e.g., R. M. Hare) claim that utilitarian ethics converges with Kantian principles of equal respect for persons, while others have developed consequentialist versions of virtue ethics. Nevertheless, this entry highlights those features of utilitarianism that distinguish it from alternative moral perspectives and points to some of its influence on educational policy debates.

Because utilitarianism fundamentally identifies the goodness or rightness of moral action with actual or expected consequences (happiness), it contrasts with Kantian ethical theories in that the intention or will of the agent is irrelevant to judging the rightness of her actions. Classical utilitarians defined happiness hedonistically, as pleasure. Contemporary utilitarians commonly employ the nonhedonistic idea of preference satisfaction (good outcomes are those in which more people get more of what they want, or, in some versions, what they would want if they were perfectly rational).

Regardless of how utility is defined, an important and distinctive feature of utilitarianism is that it often seems to lead to moral conclusions that conflict with "common sense" morality. While critics view this as a deficiency in utilitarianism (more on this later), proponents need not do so. Indeed, utilitarianism has been viewed by its proponents since the time of Jeremy Bentham as providing ethical foundations for social reform. Thus, 19th-century utilitarians such as Bentham and John Stuart Mill were early activists for causes like humane prison reform (Bentham), equal rights for women (both Bentham and Mill), abolitionism of slavery, children's welfare, and the more humane treatment of animals (Bentham). Perhaps the most famous contemporary utilitarian theorist, Peter Singer, has been extremely influential as an advocate of the idea of animal rights and vegetarianism. So, in the hands of at least some of its most prominent advocates, utilitarianism is an anticonservative ethical doctrine.

Objections to Utilitarianism

Utilitarianism is a controversial ethical theory and has generated a wide range of criticisms, sometimes with catchy names—for example, that its conception of morality is too demanding, that it requires moral agents to think and act as if they were "utility monsters," that it fails to acknowledge the ethical significance of special relationships such as friendships, and that it renders respect for individual rights vulnerable to majoritarian tyranny. Thus, for example, utilitarianism is sometimes held to commit individuals to moral judgments such as letting

one seriously ill person die to alleviate the modest discomfort suffered by a large number of people suffering debilitating back pain (we are supposed to imagine relevant constraints that might apply—such as scarce medical resources). In perhaps the most famous "thought experiment" in all of philosophy—the notorious "trolley example"—we are asked to imagine a train hurtling toward several rail workers who will definitely be killed if the train is not somehow stopped or diverted. In the example, a utilitarian moral agent is supposed to be committed to horrible actions such as pushing a large man off the bridge to stop the train—thus killing him in order to save the lives of several others (there are numerous variations on this gruesome scenario).

The focus in the philosophical literature on extreme and unrealistic examples such as the trolley case has provided utilitarians with some insulation from the underlying force of the criticisms they represent. Since no one can realistically expect to be faced with such choices in real life, some say, they can be dismissed as irrelevant to an assessment of utilitarianism's status as a moral theory. However, objections to utilitarianism cannot be so easily dismissed. Indeed, the fundamental principle of maximizing happiness logically entails deeply inegalitarian (and thus for many, deeply unjust) consequences, although this implication of utilitarianism can easily be overlooked since utilitarianism is strongly egalitarian in at least one sense—it requires the welfare or happiness of each to be counted equally in determining the utilitarian best outcome.

Utilitarianism is inegalitarian, and potentially radically so, because it allows no appeal to principles or rules that would ensure that vulnerable individuals are protected against utility-maximizing outcomes that leave them very badly off. Indeed, according to utilitarianism, it is impermissible to adopt policies that ensure a decent level of welfare of each individual if there are feasible alternatives that promote more welfare. To illustrate, consider the issue of including children with disabilities in mainstream classrooms. Utilitarianism requires that in comparing the consequences of different alternative policies (e.g., inclusive schools vs. separate schools), the welfare of all—disabled and otherwise—must be counted equally as "inputs." However, once we count up and aggregate the total welfare of everyone involved, the result may be that members of one or more groups are very badly off, while others are very well off (e.g., because disabled people and those who care most about them are a minority). If promoting the greatest overall or average welfare is served by policies that segregate students with disabilities, or which deny them an education altogether, then utilitarianism requires that we do so.

The inegalitarian implications of utilitarianism are relevant to a critically reflective consideration of many contemporary educational policy questions—about what constitutes a fair distribution of school funding for students from unequal economic backgrounds, whether the state should fund religious schools, whether boys and girls be educated differently and/or separately, and so on. In each of these cases, utilitarianism requires that we evaluate the merits of educational policies according to their effects on overall or average happiness or welfare. While the actual outcomes of utilitarian reasoning about such cases cannot be determined without a careful consideration of the exigencies of particular situations and contexts, the fact remains that the "principle of utility" may, and sometimes does, require the adoption of inegalitarian policies or actions, which may offend against standing intuitions of fairness, decency, and humane treatment.

Influence on Education

Unsurprisingly, the inegalitarian dimension of utilitarianism has been especially prominent in educational debates. Perhaps the most influential application of utilitarian ideas in the educational arena has been through the incorporation of utilitarian ideas in human capital theory. Developed by economists, human capital approaches view education as a mechanism or tool for maximizing social utility through the development of individual economic productivity or "human capital." On this view, the primary purpose of education is to equip students with skills that enable them to put their labor to more productive use. More productive workers earn higher incomes and contribute to a more productive economy. Economic growth increases overall happiness or welfare. Thus, for example, if those who live in poverty lack access to good quality education, then from a human capital perspective, the primary reason for expanding access to and quality of education is that doing so is an effective means of promoting economic prosperity for the nation as a whole.

Human capital conceptions of education subordinate those educational aims that focus on benefits to the individual being educated—for example, to promote individual growth, to foster critical reflection, and to enable people to lead more rewarding

and flourishing lives—to economic aims of education that emphasize the benefits that education provides to other people, such as "the country as a whole." In this light, we can see how the human capital approach is vulnerable to another well-known objection to utilitarianism—often termed *the separateness of persons* objection.

This objection, initially developed by the philosopher John Rawls, begins from the claim that each individual person possesses ethical value in his or her own right; it matters ethically that each person's happiness or welfare is his or her own and not merely considered in the aggregate. However, the human capital approach to education appears to violate this ethical principle by identifying the value of providing an education to an individual student with that student's economic utility. In other words, the human capital approach recognizes the value of individual students only in the sense that each student represents an individual unit of utility within the aggregative process of calculating overall utility. Apart from this, the benefits that education may have for particular individuals are ethically irrelevant.

While human capital theory has heavily influenced economic thinking about education, and also educational policymaking, very few contemporary educational theorists have adopted an explicitly utilitarian stance in their thinking. One exception to this rule is the work of Robin Barrow (1975/2012), who defends a utilitarian theory of education that, he also argues, is attributable to Plato. According to Barrow, Plato's conception of eudaimonia (flourishing or "happiness") provides the criterion for rationally determining the proper function and place of individuals within the social order, such that an education that prepares people to occupy their respective social roles will ensure the happiness of each individual while also maximizing the happiness of the whole community. Clearly, such a eudaimonistic conception of utilitarian education differs significantly from the economically utilitarian educational views of human capital theorists, though no doubt objections to utilitarianism such as those outlined above (and others as well) will arise in different forms.

Conclusion

Ultimately, the reason utilitarianism has remained a persistently attractive ethical theory since the early 19th century is that it captures an important moral truth—namely, that the consequences of action for human welfare are fundamentally important and should have an important place in any adequate ethical theory. A conception of morality that required us to obey "tried and true" rules without regard to consequences, or that pandered to existing "commonsense" intuitions about right and wrong without subjecting them to critical reflection in light of the harms and benefits imposed on people in particular circumstances, seems grievously deficient.

Nevertheless, deep concerns about utilitarianism, and its influence on education, also persist. No doubt, the aim of maximizing economic growth through education will sometimes benefit individuals, for example, by providing them with job skills to escape at least the worst forms of poverty. However, an education that subordinates all educational values to economic utility (or some other definition of utility) seems necessarily heedless of education's particularistic (and potentially enormous) significance for individuals. Thus, critics maintain, utilitarianism can at best provide a partial and limited answer to problems of educational policy and practice; at worst, it may blind us to the most important and significant values to which education may be of service.

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See also Equality of Educational Opportunity; Human Capital Theory and Education; Kant, Immanuel; Mill, John Stuart; Plato; Rawls, John; Virtue Ethics

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Utopias

Education is one of the most difficult tasks undertaken by a society. It becomes an even greater problem when it is not only devoted to the integration of children into the society but also is considered as a

means to construct a better society and to improve human nature—in the course of which moral and social values necessarily have to be questioned. For human beings not only transmit rules and skills, they also develop reflections concerning what is transmitted, what has to be transmitted—and why. We also reflect on the institutions in which transmittal occurs and the means that are adopted. In endeavors such as these, the aims or goals of education are a persistent question, as is the issue of means.

Sometimes broad educational projects such as these, aimed at reform of society or of human nature itself, are regarded as "utopian"—a negative label, implying a quest that is impossible, unrealistic, and dangerous. But there is a contrary and more positive usage, in which a utopia can point the way to renovation (if not salvation).

To understand the underlying meaning of such a word as *utopia* (and of the derived adjectives *utopian*, *utopism*, *utopist*), it is helpful at the outset to recall its origin.

About the Word *Utopia*

First, Utopia is the name created by Thomas More in 1516, of an imaginary island; and it is also the shortened title of the novel that describes the lovely and admirable organization of this happy place (the Latin title is *De optimo reipublicae statu deque nova insula Utopia libellus*, which means "Treatise on the Status of the Best Republic [or State] and on the New Island Utopia"). More created this name from the ancient Greek word *topos* (place), and the prefix "u," which indicates a negation. So "utopia" ("u-topos") is a "no-place," a place that does not exist, a "nowhere"—a word that William Morris chose as a title for his novel *News From Nowhere* (1890–1891), and which Samuel Butler used for his—but in the reverse alphabetical order, *Erewhon* (1872). Thomas More himself said that the letter *u* can be pronounced *œ* and then refer to the Greek for "good": Utopia can be defined as a happy and unreal place.

Second, "utopia" (with a small letter) became the generic name of all the novels built on the same scheme as that of Thomas More: They relate the discovery of an unknown and perfectly organized country that some lost travelers encounter by chance. In this group are *Civitas Solis* or *City of the Sun* (1623) by Tommaso Campanella, *The New Atlantis* (1627) by Francis Bacon, *Voyage en Icarie* (*Travels in Icaria*, 1840–1842) by Étienne Cabet, and some futuristic novels in which the discovery of a happy city involves travel into the future, like *Looking Backward* (1888) by Edward Bellamy, or Morris's and Butler's novels. There are some discussions as to whether Plato's *Republic* can retrospectively be named a "utopia"; some of its characteristics could confirm this retroactive use of the word, but many others invalidate it. Nevertheless, most of the authors of utopias are somehow inspired by the *Republic*, insofar as this text defines a perfect state. The same debate occurs about Rousseau's classic educational treatise, *Emile*, which progressively becomes a novel painting the goodness of a natural and free education.

Third, the word *utopia* denotes an impossible dream of perfection, with a danger of illusion, which can give way to a nightmare; thus utopias can become very negative and depreciative in character. The utopia becomes a dystopia; a classic example would be found in Aldous Huxley's 1932 novel *Brave New World*. As for Rousseau's educational theories, they are sometimes criticized as embodying an impossible and dangerous method that keeps the child far from other children and far from books and knowledge, and so to those who read Rousseau, this way his novel depicts a dystopia.

Fourth, on the bright side, utopias can give rise to the dynamism of innovation. Karl Mannheim, in *Ideology and Utopia* (first German edition, 1929), says that the demise of utopia provokes a "static state of affairs" and that society needs utopia. Ernst Bloch, in his *Principle of Hope* (1954–1959) develops similar ideas when appealing to free socialism, different from Stalinism.

Fifth, utopia appears as a method of thinking, a sort of thought experiment. This point is developed by Raymond Ruyer in *L'Utopie et les utopies* (1950). He compares utopia with the first stage of scientific constructions of models. If *Emile* can be related to utopia, it could be from this very point of view: Rousseau builds some pedagogical situations, which become imaginary experiments.

The story of utopia is not, however, only a story that dwells in books or in the world of ideas. In centuries past, and up to the 1960s and beyond, groups of individuals have tried to build utopias—which is quite ironic, since the very essence of utopia is to remain a dream. However, the attempts at making utopia a reality are quite numerous. Some authors of the 19th century, like Charles Fourier and Henri de Saint-Simon, were called *utopists* because they tried to imagine new societies that could actually be established. A number of attempts to found utopias

took place in the United States, in Brazil, in Mexico, in Algeria, and in France. Others were inspired by Cabet's *Icaria* or by Bellamy's *Looking Backward*. One original and contemporary utopia, Auroville, in southeast India, was created 40 years ago and still exists. Insofar as education is concerned, a host of utopian experiments were stimulated in the 20th century by B. F. Skinner's novel *Walden Two* (1948). Most "achieved utopias," however, were failures or semifailures.

Whatever its meaning might be—a fictitious story, a dream (or a nightmare), a project, a method of thinking, an experience—a utopia deals in some fashion with education and can shed light on its processes and its contributions to society, illuminating the value and functions of knowledge in education; the causes and effects of inequalities and exclusion in education; and, if there is such a thing as a "perfect education," in what it consists.

The Value of Knowledge in Utopias

One of the problems an educator is confronted with is how to instill in a child the desire for knowledge. When Aristotle says that "all men, by nature, desire to know" (*Metaphysics*, A, Book 1, sec. 980a), he does not mean that this desire is spontaneous—a psychological interpretation of this famous sentence would be irrelevant. Aristotle defines humankind by the *potentiality* of acquiring knowledge, a potentiality that can be delayed by many obstacles, for example, the pupils' indifference and passive refusal to master new knowledge.

In utopian novels, in which perfection is supposed to be attained, learning is described as a pleasure. Utopian writers have (or suppose that they have) deep insight into what is wrong in the real world, and thus they build an inverse world of harmony and ease. But the differences in their conceptions of what perfection consists in lead them to offer diverse prognostications about education.

Generally, knowledge is celebrated in utopias. Thomas More's citizens have made many discoveries without any outside influence, which suggests that knowledge, or truth, can gain recognition as such in their society. So the Utopians attend lectures every morning, before working, and attain a high level of knowledge that is far removed from mundane usefulness in the vital tasks of the day.

In the anonymous utopia, the *Royaume d'Antagil* (1616), the effort is focused on the architectural organization of the Academy and the associated services: temples, libraries, amphitheaters, and even a sewage system. Some spaces for physical exercises are provided for maintaining the students' health.

The *Civitas Solis* of Campanella provides seven concentric circular walls around the town, with drawings on them, so that children constantly see what is worth learning: mathematics, human traditions, minerals, plants, animals, technology, sciences, religions and so on, all these being presented in a symbolic form and not in a rational or evolutionary/developmental order.

Francis Bacon's *New Atlantis* presents the picture of unfinished, evolving knowledge: A group of researchers are working in an Academy to increase knowledge in a variety of fields: mathematics, botany and medicine, physics, astronomy, human capacities, and so on. He invents new experiments and *artifacts*, which make the *New Atlantis* resemble, in some aspects, later science fiction novels: New plants and new animals are created; the climate is supposed to be mastered; and new sources of energy are implemented. In his utopia, Bacon expresses the faith in science that he already developed in two theoretical and earlier texts—*Novum Organum* (1620) and *The Proficience and Advancement of Learning* (1605). *Novum Organum* establishes how nature can be controlled by knowing and obeying its laws, while *Proficience* gives some evidence of the benefits of knowledge provided that its limits are born in mind (and so researchers have to implore God to preserve them from the bad use of science).

In Étienne Cabet's *Icaria*, knowledge is a good that children spontaneously demand. Parents and teachers need some training to deliver it correctly. The state takes responsibility for this training because in Icaria the most important public duty is to create the most perfect and happiest children possible. All their life is organized and calculated in relation with learning, even within the family circle in the evening, and even when playing. Pedagogical methods have been scientifically improved, useless difficulties have been cut out (e.g., in reading and writing, the spelling system has been reformed); laziness has disappeared (and if not, the cure consists in patiently pampering the poor child who needs help to fight the injustice of nature).

These examples emphasize that utopias have a very high regard for teaching and knowledge. In Morris's *Nowhere*, the narrator, after being accidentally thrown into the 20th century, and wanting some information about children's way of learning, is astonished when hearing that even the word

"school" is unknown, although children seem very clever and happy. In this peaceful world, education is so natural, so refined, that schools are no longer useful. In a somewhat similar vein, in 1970, Ivan Illich actually developed, as a project, the idea of *deschooling society*. His ideas had some impact on those who saw and criticized the defects of school and traditional education (the "banking" approach to education, Illich called it). In this line of utopian work, the links between education and politics is highlighted—the desire to change society merges with the desire to change education.

The Function and Finality of Knowledge

Across the range of utopian authors, however, different points of view appear. For Thomas More, having knowledge is a pleasure in itself; he does not value knowledge for its utilitarian advantages. In *Antagil*, on the contrary, the perfect architecture of the Academy is available to the higher class of the town but not to others; in Campanella's *City*, the most learned citizen is the leader, and he is called "Sun" because he lightens all his companions with his wisdom (here, therefore, being learned is identified with being wise); in Bacon's *New Atlantis*, knowledge and wisdom are not systematically linked.

This variety emphasizes the difficulty in reaching agreement about the nature of perfection, and about how to attain it, and clearly, utopias have contradictory views about the role to be played by acquisition of knowledge in this quest. In this respect, utopias cannot be considered as models, but as stimuli for reflection.

However, it is also clear that the prospects for education are dismal if it is conceived solely in terms of its usefulness for material and social life. Immanuel Kant himself underscored this when he said, in his *Reflection on Education* (1803), that education must be preserved from drifting in two directions, the one induced by parents who wish only social success for their children and the other ordered by the Prince who regards his subjects as being tools for his designs. In other words, education and knowledge have to be seen as leading to a fulfilling life, with liberty and dignity.

Nevertheless, in reality, social and material constraints can conflict with the pure pleasure of learning and the pure fulfillment of individuals. Utopian authors often are aware of this problem and resolve it by pointing to the (supposed) spontaneous harmony between individual desire and social needs (as does Thomas More), by the (supposed) wisdom of the leader (as does Campanella), by accepting some inequalities (as do both Campanella and the author of *Antagil*), or by supposing that the citizens are rational and thus are able to share harmoniously all the necessary tasks in society (as does Cabet). As for the Skinnerian education in *Walden Two*, liberty is very highly valued, and citizens are free to do what they like—but within the bounds set by the regimens of negative and positive reinforcements that effectively shape their behaviors so that the society functions smoothly. (But who, it is fair to ask, is designing these schedules of reinforcement?)

The Causes and Effects of Inequalities and Exclusion

To preserve internal harmony, utopias propose various solutions, but the defects one can discover in these solutions reveal the near impossibility of attaining a truly perfect society—even in imagination.

In Thomas More's book, although every Utopian is supposed to love learning, some Utopians do not appreciate education and culture as much as others do. This difference leads to a certain inequality—for although doing intellectual and material work are declared to be equal undertakings, in effect, the former is more highly valued. Manual workers can be "raised" to intellectual activities, but if they are not effective here, they are "reduced" again to material tasks. A similar principle applies in Campanella's *City*: Although equality between town and country is proclaimed, less gifted children are sent to the country, and if they are successful there, they are called back to town.

These examples underline one of the most difficult problems in the real world, which, in fact, is also present in utopias: How can we manage differences between human beings? Utopians have been aware that "difference" and "inequality" should not, as a matter of course, be treated as if they were the same. Jean-Jacques Rousseau, in his *Discourse on the Origin of Inequalities* (1755), subtly analyzed the concepts of *natural inequalities* and *moral or political inequalities*, and he established that "natural inequalities" (or "differences") can become inequalities according to the values of a given society. In utopias, several cases occur: Differences can remain qualitative but they do not lead to inequalities (i.e., more or less what More tries to depict in his novel, although some hierarchy does reappear); but if differences are immediately interpreted as inequalities,

they can be eradicated (i.e., what Cabet says he does, by helping the less gifted children), or else they can be justified and considered as a good—for example, by arguing that it is good for everyone to be in his or her right place (as Campanella does and, on some interpretations, Plato as well). Nonetheless, in each case, some drawbacks arise; even in utopia, perfection has its price.

Most of the time, utopias are envisioned as located on islands or in isolated places to preserve them from outside influences; Rousseau adopted a variant of this device, setting his *Emile* in a large, private country estate, virtually cut-off from outside civilization. The point is, in utopias the outside world is seen as threatening. Foreigners are considered as a danger. That is why these peaceful cities generally prepare for war, although they hope not to conduct warfare. In More's *Utopia*, war is waged by mercenaries, while in Campanella's *City of the Sun*, all the citizens can be assigned to it, and children are trained to endure the sight of blood by going hunting with their parents. The citizens of More's utopia might seem less cruel because they employ mercenaries, and they are not even allowed to be butchers themselves—rather, the cutting up of the meat is done by slaves, and the death of mercenaries is considered unimportant.

In fact, in many utopian novels, difficulties are shrugged off rather than solved, but an unsolved difficulty is a flaw in perfection. A case of an unresolved difficulty is when the utopia is built on contempt for, or the attempted exclusion of or insulation from, what is different. In contrast, differences are embraced in Charles Fourier's works. For him, differences between human beings are the expression of all sorts of passions. None of them is really bad, he said. They become bad because, in our "civilized" society, they serve no function. *Civilized society* is a simple, very imperfect, condition in which people cannot help considering some passions as vices and condemn them by inventing "morality." In the next step of society's development, which he calls "Harmony," the idea of vice will no longer be relevant. The aim of Harmony is not to create a perfect being, but to put the individual's imperfections to use. For instance, young children are often attracted by dirty things, so the best thing to do is to make use of this attraction—young children will be employed in cleaning grubby materials! Fourier considers that two thirds of little boys and one third of little girls like dirty things; he thus imagines making some groups, that he calls "little hordes," with this occupation. The other boys and girls, those who prefer delicacy, calm, and refinement, will be organized in "little bands." In this conception, there are no gendered types, but a statistical partition, which allows girls to be rude and remain feminine, and boys to be delicate, and remain masculine.

But Fourier imagines his ideal, the "phalanstery," with such a precise proportion and number of people that it is very artificial, even though he offers his ideas as the way to prepare a real society.

Differences remain difficult to manage, even in the imaginary thought of utopias. To reconcile the respect of particularities with the aspiration to the universal is not only difficult to achieve, but it is also difficult to conceive. What we can consider as a failure of utopias illustrates the inadequacy of a solution based only on organization. But the question of differences is not only a question of rational organization—it is a question of ethics.

The Dream of a Perfectly Successful Education

It is clear that there is a gap between utopias and reality, but nevertheless, utopias are seductive. With their fantasies, utopias raise questions about things that may have seemed self-evident, and by doing so, they compel us to justify our choices or to question them. Utopias are paradoxical: Their asserted perfection is attractive, but it is also disquieting, and on reflection their flaws become apparent, causing them to become less fascinating. In his *Lectures on Ideology and Utopia*, delivered in Chicago in 1975, the French philosopher Paul Ricoeur underlined an ambiguity in utopias: On the one hand, they are fictitious, and they depict the impossible; and on the other hand, they make people believe that they can be achieved. There is something ironic in the relation between utopia and reality.

Utopia and reality are opposed in the way they manage action and success. A utopia organizes and establishes programs and is supposed to depict the good way. In real situations, programs are established to change the way a society functions, but we are not able to foresee what will happen. This weakness is also a strength, and we can say with Hamlet, "There are more things in heaven and earth / Than are dreamt of in your philosophy" (Shakespeare, *Hamlet*, Act 1, Scene 5). Incompleteness has more future than culmination.

In the real world, education is a sort of accompaniment along an endless path to maturity; in utopias, the route is programmed. But is there

real education in utopia? To achieve an education would mean to obtain the forecasted result. Such a success would be a sort of confinement: In fact, to achieve an education project would amount to stealing a part of liberty and responsibility from one's own formation; it would cut out the possibility of revolt. Paradoxically, a successful education scheme could boil down to accepting a partial failure of the project of seeking a perfect education. Another factor playing havoc with preconceived educational plans is that neither parents nor teachers are the only educators—life itself, experience, and chance encounters, play a great and unpredictable role.

Thus, a failure in education can be assumed, even though it is not wished for. Utopia as a method of thinking maintains the dream of perfection; it remains imaginary but can work as a regulating tool to control desires and initiatives. At the same time, it must avoid the illusion of a possible concrete instantiation. Utopia is like a seductress who cannot be touched without burning everything around her. But thanks to utopia, we can learn how to come to terms with the belief of a possible perfection and, at the same time, how to contain it within the horizon of our hopes.

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See also Bacon, Francis; Behaviorism; *Deschooling Society*: Ivan Illich; Kant, Immanuel; Plato; Rousseau, Jean-Jacques

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V

Validity, Types of

The meaning of validity has changed often over the past century (see Kane, 2001). Originally, it was related to whether a test measured what it purported to measure, but in the mid-1950s, the usage of the concept became more complex as different types of validity were identified. Thus, it came to refer to face, content, criterion, and concurrent validity. (Face validity refers to how well the test appears, "on its face," to measure what it is claimed to measure. Content validity refers to how well the test instrument covers or samples from all aspects or content of the entity or domain it is attempting to measure—for example, to what degree does a test of mastery of a science curriculum adequately sample from all the content covered in that course. Criterion and concurrent validity are closely related and can be thought of as referring to how well the test correlates with a measure of the criterion taken at the same time and which has already been validated—for example, how well does a new way of measuring IQ [intelligence quotient] produce results that highly correlate with the standard measure of IQ.) Validity was also distinguished from reliability, which is the degree to which the test produces the same result on subsequent administrations (therefore, a test that is not valid can nevertheless be reliable). This entry focuses on the developments that subsequently have taken place with regard to the conception of validity and on the implications for users of tests.

These conceptions of validity relied heavily on providing evidence for the quality of the items used in the test, the scores, the scoring, and the test structure. Over the past half-century, however, an important change in emphasis has gradually occurred—discussions of validity became more concerned with the quality of a test score as a basis for making defensible interpretations. That is, the great shift has been from providing evidence of *validity about the test* to providing validity evidence about the way the results from the test are *used*—in short, the focus now is on the validity of the *interpretations or inferences from the test*. As pioneers in this area, Cronbach and Meehl put it, as long ago as 1955, "One does not validate a test, but only a principle for making inferences" (p. 297). Messick (1989) has been most forceful in providing a unified approach to the notion of validity. He claimed,

> Validity is an integrated evaluative judgment of the degree to which empirical evidence and theoretical rationales support the "adequacy" and "appropriateness" of "inferences" and "actions" based on test scores or other modes of assessment. . . . Hence what is to be validated is not the test or observation device as such but the inferences derived from test scores or other indicators—inferences about score meaning or interpretation and about the implications for action that the interpretation entails. (p. 13)

An important implication of the view of validity expounded by Messick is that it is vital that

evidence is provided about how users make inferences and take actions on the basis of test scores, and it also highlights the importance of determining whether the test and report developer can provide evidence for the adequacy and appropriateness of these interpretations. It should be clear that validity is not a "yes" or "no" matter; rather, it can be assessed via the degree to which the accumulated evidence supports a particular test use or interpretation. No one form of evidence can suffice; instead, the evidence needs to be multiple and aimed at defending the quality of the interpretations made on the basis of the test score (see Cronbach, 1988). The key, however, is that professional judgment is required to determine the forms of evidence that are most appropriate in a given situation and to judge the adequacy of the support for the intended purpose. In some cases, more rigor may be needed, such as when high-stakes decisions are being made.

Given the emphasis on conceptualizing validity as involving an argument, Crooks, Kane, and Cohen (1996) outlined a set of threats to each of eight linked stages of inferences and assumptions underlying performances on tests and interpretations of test scores. These stages (and the associated threats) are as follows:

1. Administration of assessment tasks to students (low motivation, anxiety, inappropriate assessment conditions)
2. Scoring of the performances on tasks (undue emphasis on some criteria, low interrater or intrarater consistency)
3. Aggregation of scores on individual tasks to produce combined scores (tasks too diverse, inappropriate weighting, overrepresentation of the domain)
4. Generalization from the particular tasks included in a combined score to the whole domain of similar tasks (conditions of assessment too variable, inconsistency of scoring criteria for different tasks)
5. Extrapolation from the assessed domain to a target domain containing all tasks relevant to the proposed interpretation (conditions of assessment too constrained, underrepresentation of domain)
6. Evaluation of the student's performance to form judgments (inadequately supported construct interpretation, biased explanation)
7. Decision on actions to be taken in light of the judgments (inappropriate standards, poor action decisions)
8. Impact on the student and other participants arising from the assessment processes, interpretations, and decisions (positive consequences not achieved, serious negative impact)

Crooks et al. (1996) noted the importance of all links in their chain for constructing an argument about the uses of a test score; and they pointed out that the strength of a chain of argument depends on its weakest link, although they suggest that Wittgenstein's (1953) claim should be borne in mind here: "The strength of the chain lies not in one fibre running throughout the entire length, but in the overlapping of many fibres" (Part I, No. 67). The nature of the decision to be made would determine where more attention should be given, and they concluded usefully by claiming that "examining each link and looking for weaknesses in the chain of inference, including those arising from common specific threats, provides a systematic approach to validation" (Crooks et al., 1996, p. 284).

With the advent of the Internet, a plethora of test reports are available, and they are becoming fancier and sometimes much more detailed; often, the information provided convinces all but the psychometrically sophisticated reader. More research is needed on the quality and nature of evidence needed to defend these more accessible reports. For example, Hattie (2010) derived seven major principles involved in the development of defensible reports based on human–computer interface research, graphics design, and visual interpretation:

1. Readers need a guarantee that they will be able to satisfactorily navigate the report.
2. Each report needs to have a major theme (anchored in the task domain, and maximizing interpretations and minimizing the use of numbers).
3. Reports should minimize scrolling, be uncluttered, and maximize the "seen" over the "read" (as these can introduce unneeded interpretation biases).
4. Reports should provide justification of the test for the specific applied purpose and interpretations.
5. Reports should include the meaning and constraints of any interpretation.
6. Reports should be timely to the decisions being made.

7. Reports need to be conceived as leading to actions and not merely as information to be copied, cited, or stored.

This topic of optimal test report design is still in its infancy, and much more attention is needed on how to devise reports to maximize users correctly interpreting them and making the correct inferences and actions from the reports. More analysis of how users interpret reports, make inferences, and make "where-to-next" decisions is needed, especially using cognitive analyses and think-aloud methods.

Bennett (2010) has added an additional demand, by challenging test developers to outline and defend their "theory of action" or program logic—providing evidence not only on the intended and unintended consequences of any testing program but also on the causal paths between the tests being developed and the outcomes desired. For example, for school-based assessment, there needs to be a theory of action relating to the students who are measured by the tests that guides the selection of the next level of instruction in light of the interpretation of test scores and ensures that strengths and gaps or weaknesses are addressed, that achievement and follow-up claims have similar meaning across population groups, that instruction is indeed adjusted by empirical evidence, and that the quality of inferences suggested and adjustments made are similar across population groups. These claims, in many ways, are reversing the trend toward asking for validity claims based on evidence of the interpretations and moving back to asking for evidence about "how the test works" (Borsboom, Cramer, Keivit, Scholten, & Franic, 2009; Borsboom, Mellenbergh, & van Heerden, 2004).

There are many forms of evidence relating to the validity of tests—their use, their fidelity, their interpretations, and their limitations. The choice and sufficiency of this evidence are very much a function of the proposed interpretations and use. The test developer, the person who chooses the test to be administered, the test interpreter, and perhaps even the individuals who are taking the test need to seek and consider the preponderance of evidence that lends support to any interpretations or decisions based on the information in the test. If much of this evidence for validity in the use of the test is provided by the developer, there is a greater probability that users and interpreters will make defensible interpretations, understand the limitations and strengths of the test relating to the interpretations, and provide alternative plausible hypotheses or interpretations of test scores that may challenge the user and interpreters as they make informed decisions about the quality of the interpretations.

John Hattie

See also Abilities, Measurement of; Experimental and Quasi-Experimental Designs for Research: Campbell and Stanley; High-Stakes Testing

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Value-Free Ideal for Research: Controversies

The value-free ideal has a long and complicated history. It begins with social science's infancy, especially the early work of Max Weber and debate over

value-free (*Wertfreiheit*) social science. And it continues through logical empiricism, the revolutionary vision of Thomas S. Kuhn, and contemporary philosophical debate over the nature and ambitions of modern science. Woven throughout this history are questions about the nature and limits of scientific objectivity and the aims of scientific inquiry. The various positions that have emerged about the possibility of value-free research especially in the social and human sciences have been reflected in the lively debates concerning the nature of educational research that have been taking place for approximately a century; sometimes these debates have occurred in the context of discussions of educational research methodology—for example, the strong (and international) push at the end of the 20th century for the use of true experimental research designs (the "gold standard") was often seen by critics as a shortsighted, quixotic, and positivistic quest for objective, value-free results on which educational policy could be based (see Phillips, 2006). This entry selectively reviews several important milestones in these various debates, tracking key developments in response to these questions; the educational literature will not be the focus in what follows, as the debates there were largely derivative.

One of the earliest discussions of value judgments in social science began with the publication of Weber's "'Objectivity' in Social Science and Social Policy" in 1904. Weber (1949) had just assumed the coeditorship of a preeminent social science publication, and he wanted to establish standards to guide "an exclusively scientific journal" that also sought "the education of judgment about practical social problems" (p. 50). At the time, many social scientists believed that social research, especially the study of economic theory, should not be divorced from value judgments about political ends. Weber believed that some social scientists went too far, conflating "what was normatively right . . . with the immutably existent." Weber rejected the view that economics was, at root, an ethical science that could "provide binding norms and ideals from which directives for immediate practical activity can be derived" (p. 52).

Nevertheless, Weber believed that value judgments could, in fact, be studied by social scientists when the analysis took the form of technical criticism. In many respects, Weber's (1949) position in "objectivity" fits the logical empiricist mold—he described science as striving for an analytic ordering of empirical reality and maintained that "empirical science cannot tell anyone what he *should* do—but rather what he *can* do" (p. 54). At the same time, Weber believed that social science was value relevant (*Wertbeziehung*) for two reasons. First, the delineation of objects and problems in the social sciences must be guided by cultural values. Empirical investigation that does not reflect or explain the problems and experiences of people—problems and experiences shaped by cultural values—misses the social aspect of social science. Second, the interpretation of social phenomena requires the attribution of intentional states to people. Because social scientists cannot directly observe these states, the best recourse is to draw on their own subjective experiences to fill the interpretive gap.

Despite these value-relevant demands, Weber ultimately concluded that scientific objectivity and value freedom in the social sciences could be maintained by appealing to the larger interests of science and the professional character of scientists. Researchers have a scientific duty to search for factual truths as well as a practical one to stand up for these ideals. For Weber, the careful execution of these professional duties is what constituted value-free social scientific inquiry.

In the 1940s and 1950s, the ascendance of logical empiricism (also known as logical positivism) in the United States, and the conclusion of World War II, brought new interest in scientific methodology and the role of science in reshaping society. These concerns naturally led to questions about the role of values in scientific inquiry. Some logical empiricists, like A. J. Ayer (1954), held to a strict distinction between statements of fact, which could be verified with empirical observations, and statements of value, which could not. While Ayer's work went on to inspire behavioral scientists like B. F. Skinner, it also seemed to imply that values, much like mental processes, were not susceptible to empirical inquiry and should therefore be ruled entirely outside the domain of science.

Other logical empiricists like Ernest Nagel offered more nuanced views of values in social science. Much like Weber, Nagel (1979) distinguished between different kinds or modes of value judgment. Sometimes researchers make value judgments in their estimation of the extent to which a particular fact is accurately described by a particular judgment. These "characterizing" value judgments assess the empirical evidence for or against particular conclusions but do not imply approval or disapproval. For example, a biologist might judge that a particular animal is anemic on the basis of the available

evidence. In contrast, "appraising" value judgments signal approval or disapproval as to a particular state. In the prior example, an appraisal would attach approval or disapproval to the specimen's anemic state (p. 492). Appraising judgments can also have a role in science—for example, in determining acceptable risks in medical research and balancing type I versus type II statistical errors.

Nagel's two types of value judgment resemble Karl Popper's distinction between purely scientific (sometimes called intrascientific) and "extrascientific" values. The former include values like truth, relevance, and simplicity—values that contribute to the scientific search for truth through rational criticism and the gathering of unbiased empirical evidence. The latter include all other values, including religious, moral, and cultural values. Like Nagel, Popper believed that such extrascientific values were integral to being a practicing scientist and not just in setting the parameters of scientific inquiry. To expect a social scientist to "suppress or destroy his value judgments," he wrote, would result in "destroying him as a human being and as a scientist." It is, in short, "impossible to separate scientific work from extrascientific applications and evaluations" (Popper, 1976, p. 97).

However, Popper (1976) was also quite clear that "it is one of the tasks of scientific criticism and scientific discussion to fight against the confusion of value-spheres" (p. 97). The reconciliation of the value-laden scientist with the pursuit of truth devoid of such values raises another important contribution to the debate over value-free social science. For Popper, scientific objectivity resided less in the character or virtue of the individual scientist than in the character of a scientific community and its norm of openness to criticism. This allowed Popper to maintain, without contradiction, the humanity of individual scientists—with their biases, interests, and extrascientific values—and, at the same time, hold up scientific inquiry as a place where these outside values do not influence the internal working of science and where scientists hold one another accountable and ultimately learn from their mistakes via the mechanism of openness to criticism and scrutiny (p. 99).

The social dimensions of science touched on in Popper's work began to receive sustained attention after the 1962 publication of Thomas S. Kuhn's book, *The Structure of Scientific Revolutions*—a work that has been vastly influential in the field of education (Phillips, 1987, chap. 8). Kuhn led a generation of sociologists and philosophers to examine many of the nonevidentiary community factors involved in the production of scientific knowledge. This also opened up the possibility that so-called extrascientific values might actually shape the ways in which science advances and truth gets understood.

While the logical empiricists understood science as a process of gradual accumulation of more and better warranted theories and facts, Kuhn posited a radically different vision of scientific progress—one punctuated by periods of normal and revolutionary science. During normal science, a scientific community works within a shared paradigm or framework, where the community shares a set of puzzles, parameters for possible solutions, and favored methodologies. During revolutionary science, puzzles or anomalies arise that are particularly worrying and that highlight more fundamental disagreements. In *Structure*, Kuhn suggested that a scientist's movement from one paradigm to another was akin to a religious conversion (because the paradigms were "incommensurable"); but, notoriously, his metaphor strongly suggested irrational progression. Later writings by Kuhn suggest a reworking of this position that allows a more rational comparison of competing paradigms.

More recently, Helen Longino (2002) has developed an epistemology that she calls contextual empiricism that offers an account of the role of noncognitive factors in scientific progress. Whereas Kuhn was concerned with explaining the progression of science, Longino focuses on the relationship between science's aspirations and its epistemological foundations. She builds her epistemological framework around a central problem in philosophy of science: the underdetermination of theory by evidence (the available evidence is always compatible with a large number of theories or hypotheses). Relatedly, for a researcher to test a hypothesis, it is not enough to have a well-formulated hypothesis and a set of observations. A host of background assumptions are also required. If the observations fail to conform to the hypothesis, was it the hypothesis, the observations, or the background assumptions that were wrong?

Longino (2002) moves from these observations to the radical conclusion that all knowledge is necessarily partial. While "purely logical constraints cannot compel" acceptance of a particular hypothesis or theory, inquirers are situated within a "network of relationships—among other individuals, social systems, natural objects, and natural processes" that can serve as a resource for closing the gap left

by logic (p. 127). Thus, a claim or theory can be warranted or epistemically acceptable but also contingent on the background assumptions shared by the community of inquirers. Contextual empiricism thus avoids privileging some untested or uncriticized background assumptions over others. Knowledge is localized in the sense that it only makes sense against an implicit set of background assumptions.

Contextual empiricism requires a humbling of the aspirations of science. Values in the form of background assumptions and beliefs can actually play a critical role in promoting the development of knowledge. At the same time, knowledge is only as good as the shared aims, the standards of evidence, and the diversity of background assumptions held by the community of inquirers. On this point, Longino's account presents an interesting epistemological argument for having inquirers with a diversity of background assumptions and beliefs. Diversity in the context of inquiry can add rigor by pressing on a broader array of background assumptions and beliefs. And it can also expand the community of people who may accept a hypothesis or theory as warranted by its having been vetted by representatives with similar aims or background assumptions. This message deserves to be better known in the educational research community, which is nothing if not diverse.

Of course, contextual empiricism is by no means the final word in the debate over the acceptability of value judgments in social science. The closer science comes to contested areas of public policy—be it health care, education, public safety, or environmental policy—the more scrutiny the aims of science and the objectivity of inquiry are likely to receive.

Jonathan R. Dolle

See also Educational Research, Critiques of; Evidence-Based Policy and Practice; Kuhn, Thomas S.; Philosophical Issues in Educational Research: An Overview; Popper, Karl; Positivism; Postpositivism

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Values Clarification

Popularized by the publication in 1966 of Louis Raths, Merrill Harmin, and Sidney Simon's *Values and Teaching*, the "values clarification" approach to moral education emerged in part from a recognition of the ethical pluralism in an increasingly diverse democratic society. Proponents of values clarification rejected the notion that moral growth is best achieved through the direct inculcation of a fixed moral code and argued that students faced a bewildering array of conflicting messages about appropriate models and values they should choose to adopt. Accordingly, students needed to develop reflective and deliberative skills of moral reasoning.

Now often used as a generic term for a range of approaches aimed at identifying participants' values and priorities, values clarification began as a specific curricular approach to moral education designed to elicit and clarify—but not interrogate or challenge—students' perspectives. (Students could be of middle school or high school age, but this same approach crept into some college classes.) The values

clarification process involved several steps: First, students freely chose, or identified, their values from a range of alternatives. Part of this choosing process included a consideration of the consequences of each alternative. Once students identified their values, they were asked to express and affirm those values, without any external evaluation or judgment from peers. Finally, students were encouraged to consider whether their actions matched their stated beliefs and, if not, how they might bring them into closer alignment.

Advocates developed dozens of curricular strategies for helping students enact the values clarification processes, activities that ranged from as little as five minutes to more than an hour each day. Some schools offered elective courses in values clarification, while others sought to integrate "valuing processes" into a range of preexisting academic content. Throughout all values clarification activities, educators were to refrain from imposing or even communicating their own values.

The central contention of the values clarification approach was that empowering students to clarify their own ethical preferences and priorities would change their behavior to reflect those values. While the values clarification approach to moral education enjoyed wide popularity during the 1970s, empirical research on its effectiveness suggested that it had little impact in promoting change in students' self-concept, attitudes, or behavior. But it wasn't until philosophical critiques were levied against the approach in the 1980s that values clarification began to fall out of favor as a formal curricular technique.

Philosophers of education criticized values clarification on a variety of conceptual grounds. Perhaps foremost was the lack of precision about what exactly was being produced by the values clarification process. Instead of helping orient students to substantive judgments about what is good and right, critics argued, values clarification simply surfaced students' preferences; the distinction between what one *wants* to do and what one *ought* to do was not recognized.

In addition, philosophers of education criticized values clarification's lack of rigorous critical engagement with moral choices. According to values clarification's proponents, students needed the opportunity to choose and clarify their own beliefs and values rather than simply accepting the received wisdom of dominant ethical traditions. But critics argued that values clarification was ultimately no more reflective and thoughtful than the process of direct inculcation it was striving against. Despite repeated references to critical thinking, the values arrived at through the values clarification process were not subject to sufficient critical scrutiny—considering the consequences of different options, for instance, did not include any means by which to judge the moral implications of different possible outcomes. Fundamental moral concerns such as liberty and justice, critics charged, were never addressed. As a result, the process of values clarification lacked any criteria by which to judge among claims; self-awareness and self-expression become endpoints sufficient unto themselves.

While values clarification as an officially identified curricular approach is practically nonexistent in today's schools, its proponents contend that it left an important legacy of K–12 classroom exploration of previously untouched topics and provided a way for educators to help students explore controversial issues.

Robert Kunzman

See also Character Development; Citizenship and Civic Education; Moral Education; School and Classroom Climate; Socialization; Toleration; Values Education

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Values Education

The term *values education* can be defined as a multifaceted process of socialization in schools, which transmits dominant social values to provide and

legitimate the necessary link between the individual, the group, and society. Values education also encompasses the transmitting of moral and ethical traits and standards. This entry surveys the key issues in this field and the main approaches that have been adopted.

Values Education Trends

Values education is an essential part of school pedagogy, even though the nexus between values education and pedagogy is contested and problematic. The situation is further complicated because values education (and moral education) seem to be "subject to changes of fashion" (Winch & Gingell, 1999). For instance, an approach extremely popular in the 1970s was "values clarification," in which the aim was to make students aware of their own values but not to evaluate or change them. However, in 1981, Alasdair MacIntyre reinterpreted and revived virtue theory, which was based on Aristotle's *Nichomachaean Ethics*; it became a very popular approach to values education, and values clarification withered (but did not die). Advocates of virtue theory argued that moral concepts and values should be explicated in terms of character traits, which children can internalize with the assistance of classroom pedagogy and reflection. (In the Soviet Union, this process of moral education was known as *vospitanie*, or upbringing.) The desirable character traits or virtues that are often identified include tolerance, altruism, asceticism, benevolence, honesty, courage, fairness, moderation, conscientiousness, selflessness, sincerity, humility, modesty, magnanimity, sympathy, tactfulness, diligence, nobleness, trust, self-mastery, solidarity, and frugality.

A key issue for the field of values education, one that persists across the "changes in fashion," is whether values are to be "caught" or taught. Values such as peace, tolerance, courage, civility, honesty, moderation, and frugality can be taught about, and arguably should be taught about, to all students if a truly caring and responsible democratic community is to be maintained. But is this enough? Should the aim of instruction be that students not merely *know about* tolerance, for example, but also *become* tolerant? This question raises thorny issues about indoctrination, which is usually regarded as antithetical to education—issues that cannot be pursued in the present entry.

Values Education in Schools

In considering approaches to be used in classroom pedagogy relating to values education, the issue is not so much methodological or pedagogical but rather one between the "believers" and "nonbelievers" concerning the efficaciousness of teaching values in the classroom. The philosopher Gilbert Ryle, who criticized moral education in schools, argued that morality is caught, not taught. He argued that if we define teaching as "the passing on of expertise," then any notion of moral expertise seems "deeply dubious" (Winch & Gingell, 1999, p. 148).

Straughan (1982), on the other hand, in his critique of dominant approaches to the content and structure of values education, and the contested areas and boundaries between moral reasoning and the content of morality, suggested a pragmatic approach to values education, based on what could be called the 3Ms of moral education:

> *Teaching that* informed decisions must be made in making moral choices
>
> *Teaching children how* to think for themselves as autonomous moral agents
>
> *Teaching children to want* to be moral (to guarantee moral goodness in an individual)

To adopt Straughan's approach to values education, especially teaching students to want to be moral, pedagogues should be role models—that is, they should act morally themselves and try to exemplify the role of moral agents.

Approaches to values education in the classroom have the following among their specific goals:

> Helping students appreciate one another's cultural differences
>
> Helping students and teachers identify cultural stereotypes as presented in the media, when teaching values of cultural diversity
>
> Teaching students to avoid using language that is insensitive, offensive, embarrassing, or damaging
>
> Helping students adopt multiple perspectives, conceptualizations, and behaviors
>
> Helping students be respectful and tolerant of other students with different backgrounds and beliefs
>
> Helping students understand that social responsibility extends beyond local and national boundaries

Strategies for Teaching Values

Many approaches exist for explicitly undertaking values education in the classroom. In the history/civics

classroom, for example, the many approaches to values education include the following:

Inculcation instills, or attempts to instill, socially desirable values in students—through direct teaching, including storytelling, or indirectly through routine practices in the classroom, role models, reinforcement, praising, simulation, and role playing. (But, as mentioned earlier, it is debatable whether inculcation is a genuinely educational aim in a democracy, where personal autonomy is valued and indoctrination is eschewed.)

Values clarification allows students to be more socially aware and become critical thinkers. It also helps students understand and accept everyone's values and beliefs. It also includes practical activities to clarify feelings toward persons, events, or issues.

Social action and participation assumes that individuals learn values best by practicing them. There are numerous examples of social action and participation projects, including EfS (education for sustainability), "circles of democracy" (coined by Goodman, 1994) in the classroom, human rights education, social justice, and so on.

The trait approach refers to values that are classified as more important than others; it involves teaching a set of qualities such as honesty, loyalty, and compassion.

The service-learning approach involves activities at school and in the community, where schools should provide experiences as opportunities to practice making a *choice of actions*.

The cognitive-development approach is seen as a movement through stages of moral development. This helps students improve reasoning and differentiate right and wrong decisions. It also includes activities based on moral dilemmas, small group discussions, and decision-making tasks to further develop students' values.

Role plays explore multilayered values in complex moral scenarios.

The empathy approach involves an informed understanding and interpretation of cultural diversity, or the values of others in different cultures.

The time-traveler approach involves looking back at historical events, locating them in a time continuum, and relating them to current events in history.

The Politics of Values Education

The current debate concerning values education has become an overtly partisan political one. Purpel (1999), for example, argues that values education has become a "metaphor and code" for pedagogy pursuing the neoliberal and conservative social and cultural agenda. In some ways, according to Purpel (1999), the values taught in schools are traditional rather than modern:

> The values taught in the schools are very much in line of Puritan tradition of obedience, hierarchy, and hard work, values which overlap nicely with the requirements of an economic system that values a compliant and industrious work force, and a social system that demands stability and order. (p. 89)

Thus, global values education now embraces excellence and quality in academic achievement. This neoliberal ideology in education is characterized by a relentless drive toward performance, global standards of excellence, globalization of academic assessment (e.g., the Organisation for Economic Co-operation and Development's Programme for International Student Assessment), global academic achievement syndrome (Organisation for Economic Co-operation and Development, World Bank), and schools' league tables—tables ranking schools by performance. It should be recognized that the curriculum is an ideological construct, and discourses surrounding cultural and political dimensions of schooling should emphasize the ideological nature of school subjects and moral, character, and values education (Purpel, 1999; Zajda, 2009b).

For values education to be meaningful, engaging, and authentic, it must involve a greater sense of community, more emphasis on cultural diversity, and a deeper and critical understanding of democracy, equality, human rights, and social justice for all. In schools, where values education and critical literacy are taught, values should be discussed rather than imposed. In short, values education in schools represents our quest for the ideal of the morally good society.

Joseph Zajda

See also Ideology; Indoctrination; Moral Education; Values Clarification; Virtue Ethics

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VERSTEHEN

See Hermeneutics

VIRTUE ETHICS

Virtue ethics is an umbrella term covering a group of theories that argue for a primary or central role for the concepts of "virtue" and "character." The modern revival of interest in virtue ethics focuses mainly on Aristotelian ideas of eudaimonistic ethics, although alternative accounts of virtue ethics take inspiration from the writings of Plato, David Hume, and Friedrich Nietzsche. This entry concentrates on Aristotelian virtue ethics, as this account of the virtues has been the most influential in the literature and has the most to say about moral education.

The revival of virtue ethics starting in the past decades of the 20th century has gone through two distinct phases. The first phase was a time of discontent with and critique of the other two alternative, rival normative theories—deontology and consequentialism. Philosophers such as Elizabeth Anscombe and Bernard Williams criticized deontology and consequentialism on a number of grounds. They argued against an overreliance on rigid and inflexible rules that failed to capture the complexity and context specificity of moral problems. They were dissatisfied with a narrow conception of morality that left no room for the special considerations inherent in partial relationships such as friendships. They rejected an account of morality that could not account for a fuller conception of what it means for human beings to lead a fulfilled and meaningful life. They even called for a change in the fundamental question we should ask when we engage with moral philosophy, from the specific, narrow, and restricted "What should I do here, now, with this problem?" to the wider "How should I live my life? What kind of person should I be?"

The second phase of the development of virtue ethics is a more positive one, one which seeks to present an account of what the good life might be like understood via the concepts of virtue and character. The primacy of virtue is captured by two thoughts: (1) the idea that moral praise and blame are appropriate judgments of the agent's character and (2) the idea that the virtues are linked to human nature. While consequentialists define right action in terms of good consequences and deontologists focus on the importance of the motive of duty, virtue ethicists argue for the primacy of moral character. Virtue ethics answers the question "What kind of person should I be?" by advising us to have virtuous characters, characters that have stable dispositions to think, feel, and act virtuously. The virtues are linked to human nature via the function argument. For example, for Aristotle, the distinctive function of human beings is the ability to reason. To lead a good life, the life of eudaimonia, one has to fulfill the characteristic function of humans

qua humans—that is, to reason well. The virtuous person is the person of good character, the person who demonstrates excellence in practical reasoning; moral judgments are judgments of a person's character.

Virtue is "a purposive disposition, lying in a mean that is relative to us and determined by a rational principle, and by that which the prudent man would use to determine it" (*Nichomachean Ethics*, 1106b35–1107a3). So the virtues are character traits that are developed over a period of time into stable and reliable dispositions to act in particular ways—that is, to act in accordance with the noble and the good as that is determined in each situation and with reference to the particulars of that situation. Crucial to virtue ethics is the long and difficult process of moral character development that results in the ability to perceive the morally salient features of situations as well as the practical wisdom to be able to do what is right because one knows it is right, chooses it knowingly, and with the right feelings. The virtue of kindness, then, is the ability to recognize the need to be kind as determined by reference to particular situations and relative to the agent himself or herself, and it typically results in a kind response that involves both cognitive and affective elements and proceeds from a stable and reliable disposition to be kind.

The questions of how we go about developing good moral characters, how we come to have stable and reliable dispositions toward the noble and the good, and how we become virtuous people are central to virtue ethics. In Book II of the *Nichomachean Ethics* (Bekker number 1103a14ff), Aristotle points out that while we are not born virtuous, we have the potential to develop virtue. However, this potential will be actualized only if a number of factors work in our favor. The moral life is a fragile and vulnerable enterprise; to become virtuous, we need a number of positive influences and a great deal of luck. Character development takes place over a very long period of time, possibly an entire lifetime, and is affected by a number of factors that may or may not be available. This makes the possibility of virtue both rare and possibly not open to those of us who come across really bad luck in our moral endeavors. This may seem unfair and elitist, but another way of looking at it is to accept and embrace the fact that it is the very vulnerability of the good life that makes it valuable in the first place.

The role of education in character formation is to control, guide, and shape the many factors that influence our development. Character formation is influenced by our habits, the people we surround ourselves with and take as examples, the temptations and difficulties we come across, the examples we are impressed by, how others respond to our success and failures, and so on. Imagine a child who is unfortunate enough to be born to neglectful parents, to have wayward friends and disinterested teachers, and to be surrounded by temptations and pressures to do wrong; developing into a virtuous person will be much more difficult for this child than a child who is surrounded by positive examples and influences. A child who is nurtured appropriately, is encouraged in all that is good, is surrounded by all that is positive, is presented with tasks of appropriate difficulty, and is helped to learn the right lessons from her failures is much more likely to grow into a virtuous person.

Any project of moral character formation will face a dilemma: On the one hand, for education to be meaningful, it must have content, it must point to a specific path, and it must be guided by the teacher; on the other hand, because agency, choice, and responsibility are central elements of morality, moral education cannot take the form of indoctrination or forced compliance. The difficulty is in combining the two, so that moral education both contains appropriate content and fosters agency. One possible solution is to focus less on transmitting specific and potentially contentious virtues and more on the development of the reasoning and affective skills necessary for virtue.

Aristotle warns us that it is not enough to merely do the right thing; we must do the right thing for the right reason, so perhaps, the role of moral education is to help students develop reasoning skills so that they can determine the right action for themselves. Relevant reasoning skills may include becoming sensitized to the moral aspects of the world, becoming better at perceiving these moral particulars and judging their relative weight by developing the ability to form moral arguments, becoming better at engaging in meaningful debate with others, and so on. In that way, we not only see what we should do but also understand why we should do it. This solution does not guarantee correct answers, but in a sense, an answer is never correct if it is imposed externally—moral responses must be an expression of the individual's choice, and part of this process is

making mistakes and learning from them. So while the answers individuals will arrive at will not be infallible, they will at least be genuine.

At the same time, it is important to recognize that for Aristotle character development is as much an affective as it is a rational project. Emotions play a crucial role in virtue ethics, assisting us in perceiving the world in a particular way, being motivated to respond to moral demands correctly, and helping us imagine, and empathize with, the correct response. Therefore, another important role for education is to find ways to move hearts as well as engage minds.

Nafsika Athanassoulis

See also Aristotle; Character Development; Happiness; MacIntyre, Alasdair; Moral Education; Noddings, Nel

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Vocational Education

This entry first explains the concept of vocational education and its place within the broader context of a worthwhile life. In contrast to training, vocational education prepares employees to exercise independent judgment, demonstrate theoretical knowledge, and take responsibility in implementing projects in a team setting—tasks for which training is inadequate preparation. Because vocational education also enables individuals to participate more fully in civic life and contributes to self-fulfillment generally, it can also be seen as an element of social justice. It is as valid a form of education as liberal education and should be planned for just as seriously.

What Is Vocational Education?

Vocational education is an educational preparation for employment. As an educational preparation, it involves learning to take part in something worthwhile, or at least in something considered to be worthwhile by the person or persons sponsoring the education. Vocational education is thus an aspect of education more generally, namely, a preparation for a worthwhile life that involves learning. However, to say that education is a preparation for something worthwhile is bound to raise questions for *vocational* education, since it does not seem obvious that a preparation for employment is necessarily for something worthwhile, at least for the individual concerned. The question of worthwhileness tends to haunt any discussion of the nature and value of vocational education and sometimes gets confused with questions about the value of *vocational training* (see the next section of this entry).

If we think of education as concerned with three major aspects of human life—life as an individual, a citizen, and a worker—then vocational education ought to enjoy a secure place in the educational pantheon, but generally, it does not. One very important reason for this is not difficult to see: Employment, either paid or self-directed, has historically been seen not as part of a worthwhile life, but, at best, as only a possible preparation for a worthwhile life that does not involve employment. Such a view, dating from the time of Plato and Aristotle, takes it for granted that a worthwhile life can consist of some combination of leisure, the company of friends, civic engagement, contemplation, and self-cultivation. So while it seems fairly clear that preparation for civic or individual purposes is educational, as these are considered to be unproblematically worthwhile, this is less obviously the case for preparation for employment. Many would argue that no education that failed to take into account the individual needs of the student and the possibility of their participation in civic society could count as worthwhile for *anyone* and, thus, as an education at all.

Philosophical ideas about education have, in the main, tended to focus on the interests and needs of the ruling groups in any society, ranging from the oligarchs of Athens to the gentry and aristocracy of 18th-century Britain. It is a comparatively recent development for educational theorists to take

account of the needs of the large proportion of the population who must work for a living. The implications of this change, which arise from the development of industrial economies and the emergence of democracy, have not always been fully appreciated by educational theorists.

Can anything general be said of any institution or process that calls itself educational? All societies aim to bring up their young so that they can assume positions in adult life. This involves acquiring knowledge and abilities that will enable them to lead worthwhile lives. However, people differ in their views as to what constitutes a worthwhile life and whether a life of employment *could be* worthwhile. Of course, members of a leisured elite might not consider employment a worthwhile option for themselves, although, at the same time, they might believe that it is necessary for some members of society to follow a path of employment, and for these persons, preparation for a life of employment would be worthwhile. However, the fact that a powerful and influential group in society consider vocational education to be a second-rate option cannot but diminish its attractiveness in the eyes of the rest of society. Thus, although vocational education appears to be a necessary feature of any reasonably economically developed society, there are problems in making it sufficiently attractive to be an option that is taken seriously, either by employers or by potential employees.

A solution to this problem has been adopted in northern Europe and the German-speaking countries, which is to ensure not only that the technical aspect of vocational education is rigorous and relevant to the workplace but that liberal and citizenship aspects of education are also incorporated within it. This strategy does not work unless the occupations that vocational education supports are well remunerated and enjoy relatively high prestige within the society, as is in fact the case in Germany and Scandinavia, for example.

Vocational Education and Training

Vocational education is very often confused with vocational training, or even with training more generally. *Training*, the inculcation of skills that allow for confident performance of tasks, is a necessary part of any education. It is to be distinguished from *drilling*, which involves the inculcation of behaviors that do not require any judgment for their execution (Ryle, 1949). Training is important in vocational education, but that is precisely because vocational education requires the application of knowledge (particularly systematic and/or theoretical) to practice and because it incorporates a civic and individually oriented element; it is not the same as training. However, the fact that vocational education prepares its students and apprentices for the exercise of independence and responsibility within the workplace makes it different from training. Educated employees must not only act skillfully and make judgments in the course of carrying out their activities, but they are also expected to be able to plan, control, coordinate, and evaluate larger-scale operations (projects) while working with teams of other employees. Training is, by itself, an inadequate preparation for such a role. The ability to manage a project is the outcome of vocational education of the kind found in northern Europe and involves much more than the exercise of skill, or even judgment, as part and parcel of skilled performances.

However, preparation for the kind of employment that involves the carrying out of tasks requiring some, although relatively limited, discretion and judgment but little workplace independence or responsibility, with no further technical, individual, or civic development, could be satisfied by training. Indeed, much of what passes for vocational education in the English-speaking countries involves little or no more than training. This should not mislead one into thinking, however, that vocational education should be identified with training. Whereas training involves preparation to carry out specific tasks, vocational education involves preparation in its widest sense for that part of life that involves employment. What the philosopher Gilbert Ryle calls drilling, on the other hand, involves inculcation into the confident performance of routines that call for no discretion and judgment. Sadly, some preparation for employment involves the need for little more than drilling.

Evidently, employment involves know-how (not necessarily only skill). But how should we understand know-how? One influential answer, by Jason Stanley and Timothy Williamson, is that it consists of knowing that there is a way to do the appropriate task. Whatever the wider philosophical merits of this answer, it does appear to identify know-how with the *mastery of technique*. There are problems with this account, however, because it is not strictly accurate to identify know-how with mastery of technique.

First, one can master the technique for doing something without actually being able to do that thing in an appropriate context. Thus, I may be able to lay

bricks in a college environment but be unable to do so on a construction site (which is where, ultimately, the technique needs to be applied). The second problem is that I may know how to do something (e.g., land an aircraft all of whose engines have failed) without having a technique for doing so. In such a case, I devise a technique on the spot, and there is no available technique for devising a technique. It is arguable that much of what we call "skilled work" falls into the former category and "expertise" into the latter. If this is the case, then vocational know-how often requires more than mastery of technique.

Second, many operations require theoretical knowledge. How is this accounted for? One answer is that theoretical knowledge generates rules for performance and that the practitioner needs to understand and follow these rules without knowing the background theory. Another answer is that the practitioner needs to understand the theory in order to make a judgment about what should be done. Who is right? In the first instance, the answer could be that such individuals would not be able to act in a sufficiently flexible way if all that was available to them were prescriptions for action. In the second case, one might object that the practitioner does not need an expensive and lengthy education in technical theory if he or she does not often need to use it. These alternative responses demonstrate the difference between vocational education and training. In the first instance, the trained operative employs the rules, tweaking them slightly to take account of small variations in operational conditions. In the second case, the professional worker with expertise is expected to exercise a considerable degree of discretion and judgment and to cope with unexpected and complex situations competently. The approach that the state or an employer adopts to preparation for work reflects a general attitude as to the kind of employee that the nation or the employer deems appropriate for a particular occupation.

Justice and Vocational Education

Although it is obvious that vocational education is concerned with preparing future employees for work, the discussion so far has suggested that this is not its only purpose. The specific aims of vocational education are closely connected in a number of ways to social justice, the development of individuality, and civic responsibility.

If we consider that justice is partly about giving individuals the opportunity to fully participate in their societies, then vocational education should make this a priority at a number of levels. First, it should enable individuals to work in satisfying and reasonably well-paid jobs, preferably in well-regarded occupations. This should be a focus of the *technical* part of vocational education, but not only of the technical part. Second, it should enable the development of individuals who can chart and control their own course in life. This means that they should be prepared for work but in such a way that their preparation has a wider impact on their life, allowing them to develop increased independence and responsibility in relation to other aspects of living. But it should also give them access to powerful knowledge—that is, the kind of knowledge that allows them to play a part in the direction of their enterprises, trade unions, communities, and governing structures. This means that they should receive instruction not just in technical subjects but also in the broader range of subject matter that allows individuals to develop their own interests independently and enables them to understand how their society works—that is, they should gain some knowledge of subjects such as history, mathematics, science, and a foreign language. Such provision exists as a matter of course in many European countries, for example.

If taken seriously as a path to independent and responsible citizenship, vocational education has as much to offer young people as traditional liberal education. The conditions for making this happen, however, can be difficult to bring about. Many different stakeholders, including employers and employees, as well as the state, need to be persuaded of the value of vocational education and to be committed to it. This in turn means that the society needs to value responsible work and informed citizenship. Sadly, these conditions are not always fulfilled, and frequently, cultural barriers and historically rooted prejudices militate against its happening. Vocational education has yet to fully establish itself as a generally accepted form of education.

Christopher Winch

See also Education, Concept of; Peters, R. S.

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Vygotsky, Lev

Lev Vygotsky (1896–1934) is the most celebrated Russian psychologist, both in Russia and worldwide. His popularity today is so immense that some authors refer to a "Vygotsky boom" or, somewhat skeptically, a "Vygotsky cult." Yet, at the same time, Vygotsky is the most controversial, mysterious, and self-contradictory of Russian psychologists. Thousands of laudatory scholarly papers uniformly glorifying Vygotsky as the founder of virtually any idea in psychology and education are almost outbalanced by a fairly consistent critique of the multitude of conflicting and contradictory "versions of Vygotsky" featured in this literature, Western and Russian alike. Most often, this critical Vygotskian literature identifies Western interpretations of Vygotsky as the key to the problem of "understanding Vygotsky" (see also van der Veer & Valsiner, 1991) and calls for getting back to the "original texts"—that is, Vygotsky's texts translated into English (Miller, 2011). This, however, hardly solves the problem, for the translations appear highly problematic, selective, and even in certain instances largely distorted (van der Veer & Yasnitsky, 2011). Furthermore, even the Russian texts of Vygotsky that were posthumously published in the Soviet Union appear heavily edited, censored for politically incorrect statements, and, even in a few cases, faked (for the discussion of a case of the so-called benign forgery and associated problems, see Yasnitsky, 2012). Under these circumstances, the most reliable "version of Vygotsky" seems to be the one that is developed in the recent studies and publications of the group of "revisionist" scholars, whose research is solidly grounded in archival, historical, and textual materials (see Yasnitsky, 2010, 2012). This revisionist narrative necessarily takes into account the life story of Vygotsky and his Russian and international associates against the background of the sociocultural history of the interwar period and addresses (a) the axiomatic base and foundational principles of Vygotsky's thinking, (b) the activities of his first "instrumental period" of the 1920s, and (c) the dramatic "holistic revolution" in Vygotsky's thought and his struggle for the integrated theory of human consciousness and sociobiological and cultural-historical development in the 1930s. This entry presents an overview of that revisionist narrative and the consequent importation of Vygotsky's ideas into the West—albeit sometimes in mutated form—and briefly assesses Vygotsky's continuing influence in the domains of psychology and education theory.

Axiomatic Base and Foundational Principles

Vygotskian scholarship is often criticized for ascribing to Vygotsky certain "pioneering ideas" that, in fact, do not belong to him and, in a few instances, were widely shared by many of his contemporaries. It can be said that the whole set of Vygotsky's beliefs, attitudes, and values that together constitute the axiomatic base of his theory belong to this socially shared set of revolutionary ideas of the Russian intellectual milieu of the early 20th century. Most of these are pretty much at odds with our ideas about the world, at least from the dominant contemporary "Western" perspective.

First, as a child of his time, Vygotsky spent all his youth in the cultural environment of the provincial town of Gomel within the borders of the Jewish Pale of Settlement at the western outskirts of the Russian Empire. Being raised in a prosperous, secular Jewish family, Vygotsky received extensive training in a wide range of subjects, but he was leaning toward literature, arts, theater, and the history and culture of the Jewish people. His earlier writings of the period of his studies at Moscow University (1913–1917) reflect his interest in the topic of literary criticism; romanticism in the German tradition of Wilhelm Humboldt and his followers; mysticism; a preoccupation with the "Jewish question"; and a fairly critical attitude toward socialism and related ideas of the transformation of society. In Russia, a major, truly dramatic transformation of the entire system of values took place soon after the Socialist Revolution of 1917 led by the Bolshevik faction of the Russian Socialist Democratic Labour Party (later renamed the Communist Party). However, the "romantic" historicism and preoccupation with literature, art, language, and culture remained among the set of Vygotsky's foundational ideas until the last days of his life.

Second, it is virtually impossible to adequately understand Vygotsky outside the utopian cultural context of Russia that surfaced in the widely shared belief in the possibility of radical transformation of

the entire social framework that Vygotsky wholeheartedly espoused soon after the Revolution of 1917. This Soviet idea, although not particularly original, resonated with a wide range of modernist movements of the early 20th century, for instance, with the American progressive movement. However, what distinguished the Soviet brand of this progressivism was the firm conviction that human nature—similar to social life—could become the object of Promethean experimental interventions and that creation of a new, more advanced human type (a higher stage of human evolution, a "new man," or a genius-like "superman") was one of the goals of the postrevolutionary era. In his various writings of the mid-1920s, Vygotsky clearly proclaimed his commitment to the messianic mission of creating a new, revolutionary psychological theory of the human psyche and consciousness and, at the same time, of finding concrete scientific methods of normative production of such "new men" of the Communist future.

Third, another important constitutive element of Vygotsky's axiomatic base was his involvement with the official philosophical basis of most of scientific research in humanities and social sciences in the Soviet Union—the philosophy of Marxism. Vygotsky's Marxism had little to do with economic theory or its contemporary political interpretations. Furthermore, in some of his writings, he clearly expresses his distaste for direct application of Marxist ideas to psychological theory. Instead, on a higher level of generalization, Vygotsky borrows from Marxism certain principles that appeared to have promise for dealing with the problems he saw in the human sciences. One of these ideas is the imperative to analyze any phenomenon as a dynamic, historically developing process, rather than as being static. Another important idea is the leading role of interpersonal exchange, dialogue, culture, and society in human development.

All these general principles and beliefs, which Vygotsky shared with many of his contemporaries, inspired his work in diverse and quite often contradictory ways.

"Instrumental" Psychology

Although he wrote copiously on the topics of human development and education, Vygotsky virtually never carried out studies in educational settings. Instead, the main sphere of application of his talents during the most productive last decade of his life (1924–1934) was the field of special education, or "defectology," as it was referred to in the Soviet Union. By analogy with handicapped people using special aids to compensate for their physical disabilities, and building on his youthful fascination with Romanticism's emphasis on cultural processes, Vygotsky created a blend of the two and proposed the idea of "cultural mediation"—that is, the use of special "psychological tools" that are instrumental in human development by helping individuals gain control over their own psychological processes. The utopian, Promethean dimension of Vygotsky's thinking is particularly clear in his proposal to build a "theory of cultural development of higher psychological functions" on the basis of research on the use by individuals of special instruments to master their own behavior in order to reach higher, more advanced stages of cultural development. In a series of experimental studies that Vygotsky conducted with his associates in the 1920s, he showed how children who used special auxiliary "stimuli," or "signs" learned to master their "psychological functions" in the experimental settings used to study problem solving, could eventually develop "higher" functions such as logical memory or voluntary attention. The idea of external "psychological tools" in facilitating development, according to Vygotsky in the 1920s, was supposed to demonstrate the role of culture as the instrument of "mediated," cultural development.

The second most important general idea of Vygotsky's "instrumental period"—the social origin of the human mind—was supported by observation of children's performance in these situations of problem solving, which led Vygotsky to extensively quote the French scholar Pierre Janet (1859–1947), who in his general law of cultural development stated that every psychological process in its development passes from the external, interpersonal to the internal, intrapersonal stage, or, in other words, gets "internalized."

The ideas of this period were expressed in several scholarly articles that Vygotsky published in the 1920s. Also, he attempted to formulate a general "instrumental" theory of cultural development, but he never finished any of the several larger works he was engaged with at that time. These draft manuscripts, however, were uncritically published after Vygotsky's death under titles that never occur in Vygotsky's records (e.g., *The History of the Development of Higher Mental Functions*), with considerable editorial omissions and interventions,

and were subsequently commonly believed to present the core of Vygotsky's theory.

Toward "Holistic" Theory

It appears that at the end of the 1920s or the beginning of the 1930s, Vygotsky experienced a major personal and professional crisis caused by his utter dissatisfaction with the state of his theory, and a combination of personal, sociopolitical, and theoretical factors. On a number of occasions in his papers, oral presentations, manuscripts, private notes, and personal correspondence with his associates, Vygotsky expressed his criticism of their theory of cultural development for its utter abstractness and unclear practical applicability and for its radical separation between the higher and the lower psychological functions; the emphasis on the signs and the ignorance of the world of meanings; the gap between intellectual, volitional, and emotional phenomena; and the neglect of the structural and systemic nature of virtually all psychological processes. The whole system of theoretical concepts was undergoing major reconstruction and reformulation in his mind. This radical shift can be best understood as the dramatic transition from the "instrumentalism" of his earlier period to the "holism" of the last two to three years of his life (1932–1934).

Vygotsky developed his "holistic" views in accordance with his Romantic and Marxist awareness of the priority of personality, culture, and consciousness, and under the influence of German scholars of the Gestalt school, with several of whom he and his associates personally met, corresponded, and collaborated. Holism postulates the priority and the dominance of the whole over the constitutive elements, atoms, components, and parts; as a result, holism regards the human being as a whole, integrated organism, rather than as being a composite mechanism readily analyzable into parts. It was during the holistic period that Vygotsky abandoned his earlier mechanist speculations about stimuli, reflexes, "psychological instruments," and reactions and forcefully argued against research on elements and in favor of "analysis by units" that preserve all characteristics of the whole. In the writings of this period, Vygotsky speculated about a number of such "units of analysis" that would take into account social, personal, intellectual, emotional, and biological characteristics of a human being within his or her psychological environment. Perhaps the most famous notion of Vygotsky's, the "zone of proximal development" that designates the difference between the level a child could achieve when acting without assistance and the level attained via assisted performance, was introduced in Vygotsky's writings of the last two years of his life, but—like many other innovative ideas of the period—remained only briefly sketched, not operationalized, and underdeveloped theoretically.

The history of the importing of Vygotsky's ideas into the West is well documented (Valsiner, 1988) and is marked by a number of publications of the 1930s, 1960s, and 1970s that were initiated mostly by left-leaning intellectuals sympathetic to the Soviet Union or the prosocialist case and who were struggling to bring the issues of culture, mind, meaning, and consciousness back into the human sciences (see Bruner, 1990). But real popularity in North America did not come to Vygotsky until the 1980s when his ideas where widely disseminated, primarily among educationists, and presented, quite mistakenly, in sharp contrast to the ideas of Jean Piaget, who had remained a cult figure throughout the 1960s and 1970s.

However, despite the actual "Vygotsky boom" in North America, the imported version of Vygotsky's theory in the West failed to preserve the whole complexity of Vygotsky's theory and is largely fragmented, if not misguided. This is why the celebrated notion of the "zone of proximal development" was disseminated as an idea that a child learns from the external input from a "knowledgeable other" that, on the one hand, is fairly distant from the vague and imprecise meaning of this expression in various Vygotsky's writings of 1933–1934 and, on the other hand, in fact, is quite in agreement with the mainstream behaviorist thinking about learning and development with its emphasis on external "reinforcement." Therefore, it is the rapidly developing theory and practice of dynamic assessment (see, e.g., Haywood & Lidz, 2007) that remains perhaps the most notable, concrete, and important educational application of Vygotsky-inspired ideas in Western educational system. On the other hand, the integrative and holistic potential of the developmental science advocated by "the Mozart" and "the Beethoven of psychology"—Vygotsky, and his closest and most important associate Alexander Luria (Toulmin, 1978)—has been largely ignored to date, and it is yet again put on trial in the renewed proposal of the "romantic science" (Sacks, in press) of the integrative cultural-historical and bio-social psychology (Yasnitsky, van der Veer, & Ferrari, in press).

Anton Yasnitsky

See also Activity Theory; Bruner, Jerome; Marx, Karl; Piaget, Jean; Progressive Education and Its Critics; Social Cognitive Theory

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Waldorf Education: Rudolf Steiner

Rudolf Steiner (1861–1925) was an Austrian polymath: a philosopher, social reformer, educator, artist, and architect. Through his founding of a spiritual movement, anthroposophy, he articulated teachings on topics ranging from Goethean science to art, medicine, economics, and education. The worldwide movement of Waldorf education is perhaps the greatest long-term example of holistic education. This entry discusses Steiner's views on spirituality, its role in human existence, and his understanding of human development. It then describes the history of Waldorf education, its purpose and curriculum, and the expansion of Waldorf schools across North America.

Although academically precocious as a youth, Steiner attended trade rather than academically oriented schools. Still, Steiner taught himself the more academic curriculum. After working as an editor of Goethe's scientific writings and as a tutor for a child with a brain malady, Steiner developed an understanding of education, which later helped him conceptualize Waldorf schools. Also influencing Steiner's (1977) later ideas about education were an undercurrent of spiritual experiences leading him to write, "The spiritual world is a reality . . . as certain to me as the reality of the physical. But I needed some kind of justification for this assumption" (p. 29).

In 1900, Steiner took part in theosophy, a European spiritual movement that combined a study of world religions, ancient mysteries, philosophy, and psychic investigation. In 1912, Steiner broke with the group and, with a number of German individuals, formed the Anthroposophical Society, based on Steiner's writings and lectures. Six years later, Steiner would employ anthroposophical ideas to help educators understand the grand scope of human development taking into account reincarnation.

Anthroposophy

Like theosophy, anthroposophy provides an intellectual rationale and meditative practices for spiritual investigation. Unlike theosophy, which looks to Eastern religious practices, anthroposophy is anchored in esoteric Christianity. Three major principles of anthroposophy help us understand the spiritual experiences from which Steiner would later devise his ideas about the purpose of education and the development of the soul.

First, according to Steiner, interpenetrating the visible world is a spiritual one. Therefore, attempts to solve problems on a solely material level would eventually fail. Second, human beings have the potential to perceive and enter into the spiritual world through latent organs of perception. The third key principle is that when spiritual investigators achieve an advanced stage of apprehension, they can consciously enter into an objective spirit, and their findings can be articulated and tested. Since anyone who engages in anthroposophy can with great effort and practice achieve such abilities, this new spiritual perception helps one understand the physical world in greater depth. As a result of his spiritual

research, among many other things, Steiner offered a holistic conception of human development that took into account a developmental unfolding of physical, emotional, and cognitive capacities.

Steiner's Conception of the Human Being

Steiner described humans as spiritual beings with many aspects, and he conceived of a fourfold human being with physical, etheric, astral, and ego bodies. Steiner viewed human beings as having a physical body, which can be likened to the mineral world—material and lifeless; an etheric body, or life force, like all living things, including plants; an astral or feeling body, which is the source of thought and emotion and is present in all animals; and an ego, or a sense of the individual "I." For Steiner, the ego or soul is the source of self-consciousness and differentiates humans from the plant and animal kingdoms. This ego allows for the capacity of inner motive, distinct from instinct or desire that exists elsewhere in the animal kingdom, and especially the capacity to create, to generate new and surprising realities in the physical world. Developmentally speaking, these forces grow at different stages, and it is incumbent on educators to work on these bodies to achieve the healthy development of the human being.

Three Stages of Development

Steiner developed a holistic theory of human development, focusing not only on cognitive growth but also on emotional and volitional development. Steiner describes the young child as a still-developing physical body. Gradually, the etheric life forces provide for an awakening capacity. During this stage, children learn through imitation. The next stage begins around the age of seven, with the loss of baby teeth as one of many indicators of the etheric body completing its task of developing the physical body. Steiner characterized this next stage as the time of feeling, which continues up to the time the child reaches puberty and enters adolescence. At this stage, the child learns best through teaching with vivid pictures, images, and rhythm. Finally, the third stage, from the age of 14 to 21, is marked by the release of the body of consciousness, the astral body. Thinking and judgment are the two foci for this phase of development.

The Start of Waldorf Education

On April 23, 1919, Rudolf Steiner was invited by a progressive industrialist, Emil Molt, part owner and manager of the Waldorf-Astoria Cigarette Factory in Stuttgart, Germany, to lecture to workers at the factory. Several days after the speech, Steiner met with Molt and others to discuss the formation of a school, and the Waldorf school opened in Stuttgart on the grounds of the cigarette factory in the fall of 1919 with 253 children. The first Waldorf school in the United States opened in New York City in 1928. Today, there are approximately 160 independent Waldorf schools in North America (excluded from this number are charter schools inspired by Waldorf education and programs operating in public schools).

Waldorf Curriculum

The purpose of Waldorf education is to promote social renewal and transformation through a developmentally based education focused on the growth of each child's capacities as a human being. Early childhood programs are play based to allow the child's full life forces to be free to support his or her healthy physical development. The elementary program focuses on the feeling life, bringing content through story, while the secondary program works to cultivate intellectual and critical thinking skills. While anthroposophy is not taught in Waldorf schools, it is the basis for the pedagogy.

What takes place in a Waldorf school or classroom will vary, but in general, one might expect several key elements. In the early childhood program, attention is given to physical activity, rhythm, and creating an environment worthy of imitation. The day often includes a walk; songs and games; a homemade snack; an activity of painting, gardening, or handwork; and story time.

From first through eighth grade, students learn core academic subjects such as math, language arts, social studies, and science, largely through stories and experiential activities that include drawing, painting, clay modeling, poetry, and drama. For example, middle-school students may hear the biography of a particular scientist and be expected to create a drawing of the scientist, in addition to documenting a lab experiment to demonstrate a particular principle. One constant across grade levels is the *main lesson*, a two-hour block of time set aside each morning, in which a particular subject is taught over three to four weeks. Through the use of this extended block of time, Waldorf educators teach the content in an interdisciplinary manner. In addition, students take two foreign languages and receive instruction in singing, wind and string instruments,

eurythmy (an artistic activity in which students make movements to words or music), form drawing (making geometric shapes), knitting, and woodworking. While many of these subjects are taught by specialized teachers, ideally, one classroom teacher remains with the same group of students from first through eighth grade.

The secondary school provides a continuation of the earlier curriculum with a greater emphasis on critical and analytical thinking skills and social responsibility. As the adolescent develops the capacity for independent judgment, the format of the main lesson continues with teachers who have specialized expertise in their fields.

Steiner believed in the freedom of the teacher to provide the appropriate educational experience for the children, and he opposed a dogmatic implementation of his ideas. Thus, while teachers have freedom in the classroom, they are guided by Steiner's indications, and Waldorf classrooms have similar style, scope, and sequence.

Supporting Waldorf Education

The Association of Waldorf Schools of North America, formed in 1979, assists schools by providing educational resources and a support network for teachers. Waldorf teacher training institutions are established in nearly 20 locations throughout North America. And today, there is a growing interest from homeschooling parents as well as parents and teachers in both public and charter schools. As Waldorf education and other initiatives established by Steiner grow, the ideas he propounded continue to be a source of lively conversation, as a model for advocates for homeschooling and for parents seeking pedagogical approaches that offer an alternative to the standardized core curriculum and high-stakes testing in public schools.

Waldorf education has grown from its humble beginnings in North America to include more than 160 independent schools across the continent, 250 early childhood centers, 17 teacher preparation institutes, 1 school entirely adapted for children with special needs, 1 school adopted by Native Americans, and 8 schools with educational programs designed in partnership with farms practicing organic or biodynamic agriculture. With more than 1,000 Waldorf schools in more than 60 countries, more than 2,000 Waldorf early childhood programs on five continents, and more than 600 institutions for curative education, Waldorf education is truly global.

P. Bruce Uhrmacher

See also Moral Development: Lawrence Kohlberg and Carol Gilligan; Piaget, Jean; Progressive Education and Its Critics; Religious Education and Spirituality

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Whitehead, Alfred N.

Alfred North Whitehead (1861–1947), the British mathematician, philosopher, and educational theorist, is best known for his work with Bertrand Russell (1872–1970) on the foundations of mathematics in the three-volume *Principia Mathematica* (1910, 1912, 1913). He is, however, also known for his views on education, including his claim that abstract ideas must be related to students' experience and interests for them to learn. This entry discusses central concepts in Whitehead's theory of education and his lasting influence in the field.

During the publication of *Principia Mathematica*, Whitehead left the University of Cambridge for London, and he had no permanent position until 1914 when he became professor of applied mathematics at Imperial College.

While he was in London, Whitehead became increasingly interested in questions of education. His interest was sparked by serving on numerous committees engaged in educational reform in the schools of London and beyond. His position as chair of the Delegacy administering Goldsmith's College, a prominent institution engaged in teacher education, is further evidence of his concern for school reform. As dean of science at the University of London, he was involved in the administration of an urban university quite different from the universities of Oxford and Cambridge. Whitehead's (1911/1948) initial

focus was on mathematics education, including an introductory university text for "anyone wishing to study the subject for its intrinsic interest" (p. 187). To frame mathematics as integral to a renewed liberal education, he placed himself in the humanistic tradition of Johann Friedrich Herbart (1776–1841) and others (Grattan-Guinness, 2010).

Between 1912 and 1928, Whitehead gave numerous lectures, some of which are collected in *The Aims of Education and Other Essays* (1929/1957), his major contribution to educational theory and philosophy, while *Essays in Science and Philosophy* (1947) also contains several educational writings. After he left London in 1924 to take up a position in the philosophy department at Harvard University, he continued to write about education, particularly the place of business schools in universities for the 20th century.

Inert Ideas

A central theme runs throughout Whitehead's educational philosophy, namely, the need to relate abstract ideas in any discipline to the concrete, or lived, experience and interests of students. If teachers and professors fail to take these into account, the result will be what he calls inert ideas. In the preface to *The Aims of Education*, Whitehead (1929/1957) states that "the whole book is a protest against dead knowledge, that is to say, against inert ideas" (p. v). He goes on to explain that inert ideas "are merely received into the mind without being utilized, or tested, or thrown into fresh combinations," so that instead of engaging students who can use them in the active and imaginative pursuit of knowledge, they become lifeless and result in "mental dry rot" (pp. 1, 2).

To avoid the danger of inert ideas, whatever is taught should connect to the lives of students, which Whitehead (1929/1957) describes in the following terms: "that stream, compounded of sense perceptions, feelings, hopes, desires, and of mental activities adjusting thought to thought, which forms our life" (p. 3). He uses the metaphor of the stream to indicate the fluid and open-ended character of all human experience. While the refinement of sense experience and the capacity to utilize ideas are important aspects of intellectual education, feelings, hopes, and desires constitute the deep emotional currents without which learning cannot take place. Put differently, ideas should tap into both students' cognitive interests and their aspirations and emotional lives to fully come alive. Moreover, the educator's own ideas should spring forth from a lifelong passion for their importance, so that they can provide the right environment for learning to take place.

The Art of Life

Ultimately, however, Whitehead believes that the impulse to learn comes from within the students, and the goal of education is to encourage the full development of their capacities. This process, which he refers to as the art of life, enables individuals to realize their full potential in the context of the specific environment in which they find themselves. "Each individual," he writes, "embodies an adventure of existence. The art of life is the guidance of this adventure" (Whitehead, 1929/1957, p. 39). The challenge for educators and students alike is to maintain a sense of the adventurous journey toward an understanding of life—its possibilities and obstacles—so that they can recognize the different ways to further their own flourishing even when confronted with failure (Scarfe, 2009).

The most powerful way for students to feel the value of adventure in their own lives is through a "sense of beauty, [or] the aesthetic sense of realized perfection" (Whitehead, 1929/1957, p. 40), which is best taught by means of art in all its forms: music, drama, painting, sculpture, and the crafts of carpentry, metalwork, and cooking. In each case, a student learns to express aesthetic impulses by creating material objects through a unity of "headwork" and "handwork" in a manner rarely utilized in education. Furthermore, if a sense of beauty were encouraged among both students and the general populace, the alienation of "herded town populations, reared in a scientific age" would be mitigated (Whitehead, 1929/1957, p. 41). Whitehead's goal was to avoid what he saw as the extremes of the Russian revolution, the killing fields of the First World War, and the growing economic and political crises of the 1920s. His own vision of the kind of society to which education should aim was articulated in a lecture to technical school students in London in 1919:

> In the democracy of the future every man and every woman will be trained for a free intellectual life by an education which is directly related to their immediate lives as citizens and as workers, and thereby elicits speculations and curiosities and hopes which range through the whole universe. (Whitehead, 1947, p. 172)

Whitehead's conception of a democratic society is one in which men and women can fully participate as citizens and workers. For this future to be realized, education should connect directly to their lives, their hopes and interests, by allowing them to engage in a speculative search for knowledge without any limits.

Rhythmic Cycles of Growth

Whitehead's (1929/1957) most famous contribution to educational philosophy is his account of learning as a process in which human beings pass through three rhythmic cycles of growth: romance, precision, and generalization. While each cycle has its own distinctive rhythm, they overlap with one another in ways that allow the student to utilize aspects of each cycle as they develop. Because the energy initiating and promoting learning is primarily internal, the entire process is organic and quite unlike the construction of a machine. This account is not only different from but also opposed to the behaviorism of John B. Watson (1878–1958), a contemporary of Whitehead who conceived of the learner as a stimulus–response mechanism.

Romance is a prolonged period in which the child is encouraged to pursue his or her innate curiosity, wherever it may lead. Unless a student experiences "the joy of discovery . . . the vividness of novelty . . . [and] unexplored connexions" (Whitehead, 1929/1957, pp. 2, 17) at the core of this cycle, learning is likely to be regarded as a chore that fails to arouse excitement. But if the enjoyment that accompanies children's own sense of adventure is allowed to flourish, they will pose questions for themselves, seeking answers that enhance their experience and strengthening their interests in ways that further a sense of wonder. Since the dominant rhythm of romance is freedom, the role of the educator is one of simply selecting an environment "to suit the child's stage of growth . . . adapted to individual needs" (Whitehead, 1929/1957, p. 32).

Only when the cycle of romance has achieved its full course are students likely to appreciate the need to learn the "grammar" of any discipline like mathematics, its "exactness of formulation" (Whitehead, 1929/1957, p. 18), or rules and procedures constituting the cycle of precision. The distinguishing rhythm of precision is discipline, or more precisely a self-discipline, which furnishes further growth. While precision is a necessary phase in the process of learning, there is a danger that it can kill romance. As a result, the educator must allow the student to push forward lest the love of learning disappear, for "in respect to precise knowledge, the watchword is pace, pace, pace. Get your knowledge quickly, and then use it" (Whitehead, 1929/1957, p. 36). The danger of inert ideas is always present if a student remains too long in the cycle of precision and is not permitted to utilize self-discipline in challenging and practical ways.

Once the students have gained the ability to pursue knowledge in a disciplined manner, they move to the third of the overlapping cycles, generalization, or "the fruition which has been the goal of the precise training" (Whitehead, 1929/1957, p 19). Here, they learn to relate abstract principles and ideas to concrete facts, including those emergent from their own experience. Unlike the cycle of precision where the student learned the detailed structures of any discipline, the cycle of generalization "is the stage of shedding details in favour of the active application of principles, the details retreating into subconscious habits" (Whitehead, 1929/1957, p. 37). Once again, the rhythmic pulse of this cycle is freedom but a broader, deeper freedom than in romance, strengthened by the knowledge and experience gained in the previous cycles. Nor are the cycles over with, since students in generalization are once again approaching a romantic understanding of knowledge and are capable of pursuing a lifelong process of learning in which they integrate aspects of all three in their self-development.

As this process progresses, so also can wisdom grow. Knowledge is a necessary condition for wisdom, but wisdom goes beyond it in the following ways:

> Now wisdom is the way in which knowledge is held. It concerns the handling of knowledge, its selection for the determination of relevant issues, its employment to add value to our immediate experience. This mastery of knowledge, which is wisdom, is the most intimate freedom obtainable. (Whitehead, 1929/1957, p. 30)

Wisdom is the unity of knowledge, value, experience, and freedom. It increases the value of the students' experience by guiding the ways in which they approach knowledge with a view to selecting how best to use it. Wisdom enables students to bring together theory and practice to apply their understanding to real issues facing them in life. In doing so, the students learn to engage in the kind of free

inquiry that would otherwise escape them. And this practice of freedom is, as Whitehead (1933/1967) puts it elsewhere, "a primary human need," which has been denied to the majority of humankind even though it "belong[s] to the very definition of the species" (p. 66).

Whitehead's Influence

In comparison with John Dewey (1859–1952), Whitehead has had less influence on the theory and practice of education. Nevertheless, in recent years, there has been a revival of interest not only in Whitehead's educational theory but also in his process philosophy, so called because of his belief that every entity is in the process of change or becoming.

The Japan Society for Process Studies has been in existence for more than 30 years, while the Australasian Association for Process Thought publishes two online journals, and the Whitehead Society of Korea attracts many professionals interested in his educational theory. In Europe, the Chromatiques whiteheadiennes, a network established in 2000 by Michel Weber, is now conjoined with several other academic organizations "to bring together research on the different aspects, nuances and implications of Whitehead's thought" (Weber, 2010, p. 36). This has involved sponsoring conferences, publishing proceedings and monographs, and establishing a nonprofit publishing company, which recently produced a French translation of Whitehead's major educational work, *Les visées de l'éducation et autres essais* (*The Aims of Education and Other Essays*, 2011).

In Canada, the University of Saskatchewan Process Philosophy Research Unit focuses on Whitehead's educational philosophy and has sponsored two international conferences, the proceedings of which were published in *Interchange: A Quarterly Review of Education*. Its codirectors have been members of the board of trustees of the Association of Process Philosophy of Education and the executive of the International Process Network. The latter organization was formed during a conference at the Center for Process Studies (CPS) at the Claremont Graduate University, Claremont, California, which has been a hub for Whiteheadian scholars since 1973.

Arguably, the most successful of CPS's international initiatives has been the China Project. Fourteen centers for process-oriented research have been established at various universities throughout the People's Republic of China since 2002. At Zhanjiang University, research is focused on education, while at Wuhan and Beijing Normal universities, the main interest is in philosophy, and at Shanghai University, the focus is on sustainable urbanization. The Chinese attraction to Whitehead's process thought may well be because of its rapprochement with Daoism (Schindler, 2005).

In light of this international interest in Whitehead, are there any schools to be found based on his educational philosophy? John Cobb, the founding director of CPS, argues that Whitehead's vision of education could become a reality if certain conditions were met. Perhaps the most important of these is the realization that education is far more than schooling, "so we would want the boundaries between school and community to be fluid" (Cobb, 1998, pp. 105–106) in ways that integrate the process of learning with the life of the community. In place of the individualism and competition dominant in many schools today, Cobb (1998) suggests that

> in a Whiteheadian school, there would be a great deal of emphasis on students teaching one another and working together on shared projects, with their distinctive contributions to these projects fully acknowledged. (p. 107)

Given the importance of the rhythmic cycles of growth, precision would be important, "but it would be guided by the interests gained in romance and geared towards ways of realizing visions of what might be" (Cobb, 1998, p. 110). These imaginative visions would be grounded in the practice of generalization and carefully evaluated on the basis of what students already know.

While examples of this kind of schooling may be difficult to find in the West, in China, there is a growing movement to establish schools along Whiteheadian lines (Phipps, 2003). Nor is this as ironic as it may seem, given Whitehead's own statement in *Process and Reality* (1929/1978) that his philosophy "seems to approximate more to some strains of Indian, or Chinese, thought than to . . . Western thought" (p. 10).

Howard Woodhouse

See also Behaviorism; Daoism; Dewey, John; Herbart, Johann F.; Russell, Bertrand; Spectator Theory of Knowledge

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WITTGENSTEIN, LUDWIG

Ludwig Wittgenstein (1889–1951) was one of the most fascinating, conflicted figures in the history of philosophy. Born to an aristocratic family in Vienna, one of eight talented children, three of whom committed suicide, Wittgenstein was both a brilliant and enormously influential philosopher and, as a man, often tormented by self-doubt and even self-contempt. His complex, contradictory feelings about his family's Jewish background; his own sexuality; and the nature of genius (and whether he was one), all surfaced in writings published after his death. For most of the 20th century, he was the towering figure in Anglo-American philosophy, the producer of two books, the *Tractatus Logico-Philosophicus* (1921/1961) and the posthumously published *Philosophical Investigations* (1953), each of which in its own way revolutionized philosophy. An aristocrat, prisoner of war, sometime recluse, a man who abandoned philosophical work for a decade to work as a school teacher, a part-time gardener, and an architect, Wittgenstein's love–hate relationship with philosophy is best exemplified in his frequent advice to Norman Malcolm and others of his best students to quit philosophy and do something "useful" with their lives.

There are two ways to assess Wittgenstein's influence on philosophy of education: One is through the influence of the philosophical theories advanced in the *Tractatus* and the *Investigations*; the other is through direct analysis of his scattered but substantial comments on teaching and learning themselves. A number of philosophers have produced a substantial body of work on Wittgenstein's significance to educational thought.

Tractatus Logico-Philosophicus

It is perhaps a hallmark of Wittgenstein's writings that different readers take quite different meanings away from encounters with his work—diverging sometimes even from his own notion of what he was trying to accomplish. The *Tractatus* is credited with inspiring the group of philosophers who made up the Vienna Circle and whose work gave rise to the

movement of logical positivism. Yet Wittgenstein consistently refused to endorse their interpretation of his work.

The central purpose of the *Tractatus* is to provide a rigorous analysis of the conditions of truth: what it means to say something that is true. In a series of numbered, succinct logical steps, he tried to present what is called "the picture theory of language." For Wittgenstein, our propositional assertions need to be compared and tested against the world, or, as he puts it, "what is the case." The world has a logical structure, and language has a logical structure: When we endeavor to express truths about the world, we create a "picture" in language that has the same logical form as the state of affairs it means to represent; truth resides in this homology of logical form between the "picture" and the structure of reality (just as we judge other pictures, Wittgenstein says, by how well they represent the world).

It is an easy step from this argument to the "verificationist" views of Moritz Schlick and the Vienna Circle: "The meaning of a proposition is its method of verification." Any assertion that cannot be verified is, for the logical positivists, meaningless—literally "nonsense." Similarly, for Wittgenstein (1921/1961), the problem is to demarcate what can and cannot be said:

> The correct method in philosophy would really be the following: to say nothing except what can be said, i.e. propositions of natural science—i.e. something that has nothing to do with philosophy—and then, whenever someone else wanted to say something metaphysical, to demonstrate to him that he had failed to give a meaning to certain signs in his propositions. Although it would not be satisfying to the other person—he would not have the feeling that we were teaching him philosophy—this method would be the only strictly correct one (Proposition 6.53).

And the famous, enigmatic closing line of the *Tractatus* is as follows:

> Whereof one cannot speak, thereof one must be silent (Proposition 7).

But, significantly, Wittgenstein takes this conclusion in an entirely different direction than the logical positivists; he made clear in a number of comments that the things about which we cannot speak (in a scientific, propositional sense) are actually the most important things in life—art, ethics, emotions, and religious belief.

Philosophical Investigations

Wittgenstein produced the first part of the *Investigations* while he was alive; the second part, like all of his posthumous works, was compiled by editors from his *Nachlass*—some 20,000 pages of his unpublished papers and notebooks. While the book covers a sweeping array of topics, the most discussed sections relate to language, how we learn it, and how we use it, drawing from a range of ideas that have almost taken on a life of their own: language games, forms of life, family resemblance, learning rules and how to follow them, and a conception of philosophy as "showing the fly the way out of the fly bottle." In contrast with the arid, minimalist style of the *Tractatus*, it is a much more meandering, oblique work, full of metaphors and analogies, thought experiments, case studies, and questions more than propositional assertions. Terry Eagleton (1993) called it "a thoroughly dialogical work, in which the author wonders out loud, imagines an interlocutor, asks us questions . . . forcing the reader into the work of self-demystification" (p. 9).

It is significant that the *Investigations* begins with an account of how one learns language: Rather than mapping the boundaries of what can and cannot be said, the view of language in this book is far more pluralistic and pragmatic. There are many "games" we play with language ("Giving orders, and obeying them . . . Play-acting . . . Making a joke . . . Translating from one language into another . . . Asking, thanking, cursing, greeting, praying" [Wittgenstein, 1953, § 23]), and the rules differ among them. Logical and scientific uses of language are in no way privileged here.

The core of Wittgenstein's (1953) argument about language, and the ways in which this project differs from the *Tractatus*, can be captured in these quotes:

> For a large class of cases—though not for all—in which we employ the word *meaning* it can be explained thus: the meaning of a word is its use in the language. (§ 43)

> Philosophy may in no way interfere with the actual use of language; it can in the end only describe it. (§ 124)

This pragmatic tone runs throughout the *Investigations*, much of which indeed reads as a kind of linguistic anthropology or developmental psychology: The mark that one has understood and learned a rule (any kind of rule, although

Wittgenstein's example is mathematical) is solely that one "can go on"—that is, the criterion is performative rather than internal or intellectual. This way of reading Wittgenstein makes his import for education clear.

Wittgenstein the Pedagogical Philosopher

For a philosopher of education, the striking thing about Wittgenstein's later work is the frequency and variety of examples he takes from teaching and learning. The *Investigations* begin, as noted, with the question of how one learns language, and not just language, but a plethora of language *games*, each with its own rules. What it means to learn a rule and how one learns to follow a rule so that one can say, "*Now I can go on*," is one of the most striking topics in the *Investigations* to which Wittgenstein returns again and again. What it means to teach in those contexts that cannot be *said* but only *shown* explores an important, fascinating topic that has been called "tacit teaching." C. J. B. Macmillan calls this Wittgenstein's *pedagogical turn:* "We often find him turning from a consideration of the meanings of a term or concept to ask, 'How was this learned?' or 'How would you teach it?'" (Macmillan, 1984, p. 7).

Wittgenstein's latter work is full of examples like the following:

> In teaching you philosophy I'm like a guide showing you how to find your way round London. I have to take you through the city from north to south, from east to west, from Euston to the embankment and from Piccadilly to the Marble Arch. After I have taken you [on] many journeys through the city, in all sorts of directions, we shall have passed through any given street a number of times—each time traversing the street as part of a different journey. At the end of this you will know London; you will be able to find your way about like a Londoner. Of course, a good guide will take you through the more important streets more often than he takes you down side streets; a bad guide will do the opposite. In philosophy I'm a rather bad guide. (Gasking & Jackson, 1967, p. 51)

Indeed, it can be argued that the very form of presentation in Wittgenstein's later works is *pedagogical*: His frequent use of examples, thought experiments, analogies, questions, and passages beginning with terms like "Imagine . . . ," "Think . . . ," or "Consider . . ." all suggest an invitation to the reader into a particular mode of thought. Wittgenstein is trying to teach us the way out of the fly bottle of misconceptions and unproductive ways to think about philosophical problems, often caused through unexamined uses of language.

Nicholas C. Burbules

See also Continental/Analytic Divide in Philosophy of Education; Positivism

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Wollstonecraft, Mary

An early modern English educator and writer who is often named the "mother" of feminist thought, Mary Wollstonecraft (1759–1797) has been cited also as an early socialist philosopher and as an abolitionist. An independent woman who educated herself among revolutionary intellectuals, she remains most famous for *A Vindication of the Rights of Woman* (1792), whose ideal of the educated woman Jane Roland Martin reclaimed for philosophical study in 1985. Wollstonecraft's classic treatise concludes with a thought experiment

that makes perhaps the earliest argument for government-funded universal day schooling of English children—for which purpose she constructed a normative concept of republican coeducation as a moral antidote to monarchist miseducation, which she theorized from her own direct observations and experiences.

Wollstonecraft's complete oeuvre became readily accessible for educators' theoretical study in 1989. She wrote her earliest educational thought in various modes: a parents' guidebook, *Thoughts on the Education of Daughters* (1787); an autobiographical novel of education, *Mary: A Fiction* (1788); a popular book for children's moral and critical education, *Original Stories From Real Life* (1788), which later her friend William Blake illustrated (1791); a curriculum, *The Female Reader* (1789); and *A Vindication of the Rights of Men* (1790), whose argument Thomas Paine repeated a year later in his classic *Rights of Man*. These works reflect Wollstonecraft's developing understanding of monarchism's theological, ontological, aesthetic, political-economic, ethical, and educational problems—as well as her practical concern to devise pedagogical and curricular strategies for resistance against it.

Wollstonecraft planned to write a second volume of *A Vindication of the Rights of Woman* focusing on the distinctive challenges women faced living and mothering in poverty—some of which she examined in *Maria, or the Wrongs of Woman*, an incomplete novel posthumously published along with another incomplete manuscript of parental *Lessons* (1798) for infants at home. These many works along with other Wollstonecraft documents and artifacts became curriculum for her two orphaned daughters' self-education, thus directly inspiring Mary Wollstonecraft (Godwin) Shelley's educational thought in *Frankenstein* (1818).

Revolutionary Self-Education

Wollstonecraft's legacy to educational theory includes plentiful records of her living, learning, and thinking at rational odds with conventions of monarchist womanhood that her writings on education critiqued. While mourning her death from childbirth complications, her husband, the anarchist philosopher William Godwin, wrote *Memoirs of the Author of a Vindication of the Rights of Woman* (1798), the first of countless Wollstonecraft biographies to claim her iconoclastic living as itself a major cultural contribution—especially their passionately egalitarian marriage. However, like Godwin himself, she began adulthood as a marriage resister, motivated to educate herself. Having come of age in downwardly mobile, violent family circumstances that limited severely her access to schooling or parental tutelage, she left home to work, seeking a new occupation every time a position became oppressive, until she had tried every kind of work then open to Englishwomen outside the aristocracy, except common prostitution. Thus, she learned to understand the political-economic structure of Georgian womanhood.

Meanwhile, pragmatically adapting John Locke's educational thought to her own material constraints, Wollstonecraft sought higher learning from generous mentors among her best-educated neighbors—who included an itinerant lecturer, several clergymen, Samuel Johnson, and most especially Edmund Burke's critical scapegoat, Dr. Richard Price, along with the painter Henry Fuseli and other avant-garde artists and intellectuals, whose pictures and writings her own lifesaving liberal patron Joseph Johnson published. Thus educated, Wollstonecraft, her sisters, and her beloved friend Fanny Blood established a village school for religious dissenters' children. As a schoolteacher and later also as a governess, she began reading, thinking, and writing explicitly about education. Learning languages by translating, she encountered Jean-Jacques Rousseau's educational portrait of Sophie with scornful critical brilliance. She read and critiqued popular thought on women's education by many other European Enlightenment men and women as well, but Catharine Macaulay influenced Wollstonecraft's own educational thought most directly.

Her self-education's last phase emulated Locke's notion of higher learning via travel. Going to Paris in 1792 as a correspondent, she witnessed the French monarchy's bloody end along with new freedoms the French Revolution offered women; researched and wrote *An Historical View of the Origin and Progress of the French Revolution* (1794); and collaborated with French republican leaders and English friends, including Paine, on educational policy planning. As a suicidal single mother recovering from a romantic heartbreak and the traumatic Reign of Terror, she then documented her higher learning through travel northward in *A Short Residence in Sweden, Norway, and Denmark* (1796), a contemplative epistolary narrative that Godwin admired and that literati regard now as her finest work of writing.

Monarchist Miseducation

In Chapter 2 of *A Vindication of the Rights of Woman*, Wollstonecraft described "the most perfect education" as fundamentally moral, as "such an exercise of the understanding as is best calculated to strengthen the body and form the heart." Even while arguing for universal schooling, Wollstonecraft never reduced her view of education to schooling. Her own necessary pursuit of self-education, in an empire-nation that took a laissez-faire stance toward education (but not religion), led her logically to attribute educational agency and consequence to its entire culture—its religion, arts and sciences, professions, political economy, intimacies, and reproductive customs, no less than its schools.

On these premises, she theorized monarchist culture's miseducation of men, women, and children. Founded on the Divine Right of Kings and its principal corollaries, "the divine right of husbands," of fathers, and of parents, this cultural order miseducated both sexes by classifying women as men's property, as animals and slaves, incapable of moral responsibility and worthy of abuse. Doubting any idolized monarch's claim to be an educated man, she identified idolatry, irrationality, and inhumanity in myriad details of both sexes' miseducation, aimed ever at emulating and pleasing the monarch, literal or figurative. Her analysis of that miseducation debunked its fallacious conception of "sexual character" as constructed on artifice, prejudice, and docility (both male and female weaknesses). She protested the sexual economy premised on it, a property system that enslaved Africans and women, neglected and abused children, and undermined professional ethics. Explaining how its double standard of sexual morality sabotaged both marriage and child rearing, she also critiqued both private and public educators who reproduced sexual character—tutor, governess, schoolteacher, and educational theorist—as professionals confined by the Divine Rights structure to be agents of miseducation. That critical analysis laid the foundation for Wollstonecraft's normative concept of republican coeducation.

Republican Coeducation

Often so conceptually thin that it means little more than both sexes' presence together in one setting, coeducation in practice can aim to cultivate clear or blurry sex distinctions, inequality or equality, and domination or mutuality. Aiming to test the untried possibility of women's moral learning for full humanity, Wollstonecraft understood the concept in a thicker, more nuanced normative sense. She proposed that if educators would not require children's ceremonial worship, but instead encourage their freedom to engage with one another in rational religious inquiry and to wander outdoors alone among natural earthly wonders, girls no less than boys could learn moral responsibility through their own direct communion with, and intelligent love for, a rational and just God—vital to their freedom from idolatrous dependence on human tyrants. Coeducation should aim to "confound" gender distinctions without tyrannizing sexual self-expression, by cultivating mental and physical strength as well as moral beauty in both sexes. For, redefining strength and beauty, Wollstonecraft idealized health, rationality, and truthfulness in either sex, rather than "masculine" brutal capacity or "feminine" weak appearance. Coeducation should enable women to learn to exercise full responsibility as independent citizens, working with men in morally worthy professions and businesses. By teaching honestly about human sexuality and reproduction and by sharing most learning experiences together, Wollstonecraft thought both sexes could be taught to befriend each other without exploitative and deceptive manipulations—and thus prepare for marital friendship as parental partners. Condemning reliance on hired wet nurses, she argued that parents could learn from each other while learning to care for their infants at home, but she proposed a health curriculum to prepare girls for motherhood, which she denied to boys. Thus, she neglected male education for equally, mutually shared child rearing, while claiming unprecedented scientific knowledge and moral educational agency for mothers. Wollstonecraft envisioned significant cultural sites for republican coeducation in both tax-funded day schools and private homes as well as in professions, parliamentary government, and print media. But emphasizing coeducation in sciences while failing to challenge the marginal curricular status that Locke had assigned to the arts, she devalued explicit education of imagination, a feature of her own revolutionary self-education that might be necessary to develop such moral coeducational schooling and culture.

Susan Laird

See also Gender and Education; Liberalism; Locke, John; Martin, Jane Roland; Right to an Education; Rousseau, Jean-Jacques

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Y

Young, Iris Marion

Iris Marion Young (1949–2006) was professor of political science at the University of Chicago, where she was affiliated with the Gender Studies Center and the Human Rights Program. Her theorizing and critical social analysis has been influential in political philosophy, critical social theory, and feminist scholarship in general as well as in different other disciplines, such as urban planning (Fainstein, 2010), health research, dance, and performance theory. Throughout her academic career, her scholarly work was complemented and influenced by her activism and participation in various movements, forums, and initiatives (Ferguson & Nagel, 2009). Today, her work continues to be widely present also across many disciplines associated with education, including philosophy of education, education policy, sociology of education, multicultural education, feminist and critical pedagogy, multilingual education, disability studies, and citizenship education (Sardoč, 2006). Her books include *Justice and the Politics of Difference* (Young, 1990a); *Throwing Like a Girl and Other Essays in Feminist Philosophy and Social Theory* (Young, 1990b); *Intersecting Voices: Dilemmas of Gender, Political Philosophy, and Policy* (1997); *Inclusion and Democracy* (Young, 2000); and *Responsibility for Justice* (Young, 2010, published posthumously).

Major Theoretical Themes

Young's work draws from the intellectual traditions of Marxism, egalitarianism, structuralism, feminism, and phenomenology, and from scholars as diverse as John Rawls, Jürgen Habermas, Herbert Marcuse, Michel Foucault, Simone de Beauvoir, Jacques Derrida, and Maurice Merleau-Ponty. Young's basic position has been characterized by her criticism of political theory's *positivism* as "too often assuming as given institutional structures that ought to be brought under normative evaluation," and its *reductionism* represented by a "tendency to reduce political subjects to a unity and to value commonness or sameness over specificity and difference" (Young, 1990a, p. 3). Her departure from normative theorizing that fails—so she claimed—to fully encompass the concrete realities of structural inequality has been both methodological and conceptual.

Unlike ideal type theories that are largely abstracted from historically specific circumstances and decontextualized from a concrete social environment, she argued for a "socially and historically situated normative analysis and argument" (Young, 2000, p. 10). Young's "non-ideal" approach to normative and conceptual problems of social justice, citizenship, difference, inclusion, democracy, solidarity, and responsibility questioned both the neutrality and impartiality of the standard liberal paradigm most commonly characterized by a "difference-blind approach to politics and policy" (Young, 2007, p. 60).

Although Young did not reject the basic liberal premise of justice as the first virtue of social institutions (Rawls, 1971), she did advance a critical conception of justice that challenged the distributive paradigm of social justice in two separate respects. As both the expansion of the status of citizenship and the extension of citizenship rights to previously

excluded and marginalized groups has not resulted in freedom and equality for all members of the polity, social justice should strive to overcome domination and oppression embedded in existing social structures (Young, 1990a, chaps. 1 and 2). At the same time, her analysis of structural injustice related to inequalities associated with gender, disability, race, and sexuality led to the assertion that social justice should not cover only a society's basic structure but should also address aspects of structural injustice in other social spheres—for example, family life.

Equally challenging was her criticism of the liberal version of the rights-based conception of citizenship and its "normative ideal of the homogeneous public" advanced in her landmark essay "Polity and Group Difference: A Critique of the Ideal of Universal Citizenship." Here, she articulated the conception of differentiated citizenship as an alternative to the allegedly discriminatory and assimilationist conception of equality as sameness that transcends particularity and ignores differences. Given the fact, as she maintained, that the "extension of equal citizenship had not led to social justice and equality" (Young, 1989, p. 250), the recognition of equal membership for each and every member of a polity needs to move beyond an essentialist understanding of difference that ignores the political significance of group differences as well as the moral and epistemic value of the public acknowledgment of diversity. This requirement of difference sensitivity marked a turning point in contemporary discussions on citizenship and citizenship education.

Building on her criticism of the dominant paradigm of social justice and her rejection of a difference-blind conception of civic equality, she distinguished between two separate dimensions of the politics of difference articulated most fully in *Justice and the Politics of Difference*—namely (1) the politics of positional difference and (2) the politics of cultural difference (Young, 2007). This distinction challenged some of the controversies and tensions stemming from the intersection of the politics of redistribution and the politics of recognition (Fraser, 1995).

Yet not all of Young's ideas and analyses have been equally influential or recognizable. In fact, one of the most overlooked elements of her analysis of structural inequality has been her critique of the meritocracy-based conception of equal opportunities and the hierarchical division of labor, in which it is held that an individual's social status and social mobility depend in large part on her achievements and overall success in the process of education (Young, 1990a, chap. 7).

These and other ideas and analyses place Young as one of the most original and discerning scholars in both philosophy and political science, whose impact and relevance in educational theory and philosophy can be interpreted as twofold. First, she strongly advocated for broadening the category of what is considered educationally relevant, in both orientation and type of questioning. Second, she maintained that institutional change that aims to overcome exploitation, marginalization, subordination, and exclusion can be upheld through the bonding of the relationship between theory and practice.

Mitja Sardoč

See also Citizenship and Civic Education; Critical Theory; Diversity; Ethnicity and Race; Feminist Ethics; Gender and Education; Identity and Identity Politics; Multiculturalism

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Youth Culture, Theories of

Most accounts of the formation of a construct called *youth culture* converge on the advent of industrialism and an accompanying modernist shift in general cultural practices as the forces that moved theorists to cast youth as an object of scholarly interest. From Margaret Mead's *Coming of Age in Samoa* (1928/2001) to the University of Chicago's urban street sociology (e.g., Becker, 1963) and the Centre for Contemporary Cultural Studies at the University of Birmingham (e.g., Hebdige, 1977), scholars have argued that youth in modernized societies experience social conditions that lead them to band together, thus producing youth cultures, or what many scholars at the time referred to as subcultures. The use of the term *subcultures* implicitly positioned youth as players in larger cultural forces but also depicted them as reactive and resistant to those forces because of their banding together to engage in deviant acts. This entry describes the development of youth culture studies and its relevance for educational research and classroom practice.

Youth Culture and Identity Formation

The power of the youth subcultural collective was also its weakness. Engaging in the practices of the collective (e.g., bikers, punk rockers), theorists argued, was powerful because it gave the youth a voice, but it also reproduced the working-class status of the youth, because they were seen as deviant or resistant and thus struggled to achieve within a capitalistic school structure (cf. Willis, 1977). The emphasis on the collective nature of youth cultural activity, however, shifted with three changes in global social dynamics. These global social shifts in turn led to changes in scholarship on youth culture.

The first social change was to refocus attention from the collective nature of youth (sub)cultural activity to theories that suggested youth cultural activities represented a search for individual identity and place in a fast-paced, fragmented, and globally postmodern world. Youth culture theorists shifted their thinking about the importance of the collective, at least in part, because postmodern and postcolonial theories called into question the meaning of singular ethnic, racial, or cultural identities and highlighted the need to navigate multiple and shifting identities. As a result, youth cultural theorists and researchers, such as Stuart Hall (1995), began to document the ways that youth cultural affiliations were about complex interactions of ethnicity, race, class, and gender with shifting locations or sense of place that produced a fragmented sense of self. These fragmented identities motivate youth to seek ways to root themselves in memberships within social networks or in connections with others.

This turn away from the collective to the individual in youth cultural theory motivated a second change in the attention of youth cultural theorists from a focus on the unique and exotic White male to the everyday lives of all young people using popular culture to have fun, to make social connections and identifications, or to make meaning—rather than seeing youths as resistant subcultural actors. Numerous studies from that time period forward (e.g., Lewis & Fabos, 2005; Moje, 2000) have sought to document how and why youth engage in particular practices to make meaning, experience pleasure, and feel fulfilled, rather than to resist, even when those youth are members of what might be termed *subaltern* or *marginalized* groups.

This shift from casting youth cultural groups as a collection of deviants to a grouping of individuals seeking to make meaning in their lives also may have been motivated by changes in the youth cultural theorists and researchers themselves. Early theorizations of youth culture confined themselves to textual analyses or to survey research. As researchers began to engage in long-term, intensive, and intimate ethnographic research, what seemed strange may have merely become more familiar. In addition, what counts as youth or adolescence has stretched, and many adults in contemporary society adopt contemporary popular cultural tastes, passions, and pursuits rather than cling to the music, styles, or media from when they themselves were young. Adult theorists' willingness to see contemporary youth culture as less resistant and more about pleasure seeking or meaning making may have occurred because the researchers share practices with the youth they study. It may also be, as noted above, that academia is itself shifting, so that the people conducting the research embody a broader range of practices as a result of

greater diversity in the academy with respect to gender, race/ethnicity, and sexual identity.

The third change was prompted by attention to mass information and social media and particularly to the exponential growth of digitized social media that has posited youth as the change makers in a new world order. Such work has shifted attention from studies of deviant, struggling, or resistant "subcultural" youth to studies of powerful, sophisticated users of technologies, including social networking tools, fan fiction-writing sites, and a vast range of single- and multiuser games. Indeed, this move into studying how youth gather around the use of social media has expanded youth cultural studies to include a range of youth across multiple nations.

Several points are worth noting here. First, it is rare to read cultural studies of average or lower-middle-class youth—those who are neither poor nor seriously disadvantaged but are just getting by. Researchers of youth culture should consider attending to such groups because this demographic may increasingly represent the bulk of young people in the United States and other societies. Second, analyses of youth as makers of youth cultures tend to present youth cultural activity as sophisticated, generative, and endlessly adaptive, whereas youth cultural studies of poor youth of color tend to suggest that these youth, although creative and engaged, not only are left out of the power circles engendered by access to sophisticated media and literacy tools but also are kept from those circles. For example, youth who regularly play multiuser strategy games such as *Civilization*, *Sim City*, or *World of Warcraft* have opportunities to develop knowledge, social practices, and metacognitive skills valued in school and the workplace. Such games, however, require high-speed Internet connections, relatively expensive software, and sophisticated hardware. Young people who can afford, at best, a smart phone with a minimal data plan can play single-player, action games that might afford opportunities to develop coordination and some strategies but do not provide the same access to cognitive and social development. Finally, and most important, regardless of where these youth sit on the socioeconomic and power scale, they are generally represented as disaffected from schooling and, possibly, from the social world that produced them. The next section of this entry examines three recent trends in youth cultural and education studies and their import for education theory and research.

Trends in Youth Culture and Education Studies

Scholars who focus on the digital practices of youth and youth cultural groups have theorized and documented possibilities for learning from game designs, social media, and Internet-based writing networks that captivate youth attention and have started to consider designs for school-based learning environments and curricula that might be equally captivating (e.g., Gee, 2007). Digital tools allow learners to take action in their lives and craft not only new identities but also new learning opportunities. It is possible to turn classroom practice into spaces for such agency, performativity, and circulation to advance student learning.

Similarly, youth cultural theorists and those who work with youth—not to study their cultural practices but to develop them—suggest that scholars can learn from attention to youth practices with social media, both electronic and paper, to help them learn how to engage in positive social action for change (e.g., Bruce & Bishop, 2006). In contrast to the emphasis on translation to classroom practices for the purpose of advancing student learning, these projects draw from what scholars have learned about youth cultures to entice youth into projects designed to advance social change. Those interested in studying youth cultures must consider the worlds that *youth* hope to inhabit. What is their social future? How can youth cultural scholarship help them shape it?

To address those questions, as some scholars have recommended, youth cultural theorists interested in developing theories to guide education practice should not attend to detailing the cultural practices and outcomes of youth on the basis of ethnicity, race, culture, gender, or "subculture," but they should try instead to build theories based on the concept of navigating the many identities and cultures youth encounter in and out of school. According to Django Paris (2012), for example, scholars should theorize pedagogical practices and build school structures that sustain young people's cultural identities even as they help them navigate these different practices, discourses, and norms. From this perspective, it is incumbent on youth cultural scholarship in education to attend to the ways that youth in this global and continually shifting world develop the agency that comes with the ability to navigate, even as they protect the values and practices that they hold dear.

Elizabeth Birr Moje

See also Adolescent Development; Cultural Literacy and Core Knowledge/Skills

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