When teaching and learning become divorced from ends, problems arise.

Generic behavior and human conduct: Reflections on an educational dilemma

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No special clairvoyance is required to perceive that American education is presently in considerable disarray. The confusion is partly due to piecemeal attempts to respond to "outside" or nonprofessional critics, many of whom have urged that the schools become more flexible in their academic and curriculum requirements, make greater provision for individual differences, promote self-realization and self-identity, and give greater attention to moral and social values—in short, that education become less rigid and more humane. Equally vocal are those critics who would have the schools become primarily purveyors of skills and knowledge, go "back to basics," institute stricter scholastic standards, and establish more uniform criteria of achievement. Neohumanists have called for various kinds of alternative schools, while neoconservatives have advocated more discipline and greater regimentation within the existing school structure.

But there is also a more "sophisticated" kind of confusion that emanates from among professional educators themselves, who are undecided between conceiving education as an art and conceiving it as a science—with all the ramifications that such a choice entails. To conceive education as an art is to recognize those "non-scientific" aspects of teaching and learning that have to do with theory, aims, norms and ideals that are continually created and reconstructed within the ongoing educational enterprise and that do not readily lend themselves to quantitative assessment. To conceive education as a science is to emphasize the kinds of predictability, uniformity and precision in teaching and learning that are characteristic of the "exact" sciences, of which physics is perhaps the paradigm.[1] What is overlooked when the dilemma is stated in either-or terms is that education may be viewed as neither exclusively an art nor exclusively a science but as a combination of both, each contributing its proper share.

It should go without saying that the process of education is dependent upon the process of teaching, the process of teaching is linked with the process of learning, and the process of learning is shaped by the purposes for which it is designed. Despite the apparent relatedness of these factors, it is nonetheless possible to have been taught without being educated and to have learned to no purpose. One may, for example, have been taught how to use a screwdriver without for that reason being called educated; or one may have learned a mathematical theorem that serves no purpose in one's daily life. Coalescence of teaching and learning with the ends that education is designed to serve precludes artificial fragmentation of the educational enterprise and allows for its being conceived as a whole. It is when teaching and learning become divorced from ends that problems arise. Notwithstanding, attention to the nature of learning **qua** learning is needed before its relationship to both teaching and education can be fully understood.

I. From Mentalism to Behaviorism

During the first two or three decades of this century psychology was struggling to shed its metaphysical garb in order to become a "true" science. It did not wish to remain, as its name implied, a "science of mind." The classical notion of education as a matter of intellectual development or of mind training simply wouldn't do, for mentalism was suggestive of nothing that was amenable to empirical investigation. The then-current dictum that only what was observable was a fit object of scientific scrutiny led psychologists to abandon pursuit of an elusive mind in favor of an almost exclusive concern with behavior. Ontological problems of being were dismissed by contending that whatever exists at all exists in some amount; and if it exists in some amount, it can be measured. Recognition that mental states are nearly always a reflection of bodily states—for example, that eye strain can cause a headache, that physical fatigue can diminish mental alertness, or that a severe blow on the head can cause amnesia—prompted psychologists to perceive that mind and body are not two separate entities, each operating under its own independent laws, but that they function interdependently. Attesting to such recognition was the rise of the whole field of psychosomatic medicine. Physiological psychology thus began to replace mentalistic psychology, and the notion of a mind-body dualism was on its way out. In its urgency to dispose of all traces of mysticism and metaphysics and move toward becoming a "true" science, psychology embraced the thesis that all human behavior was explainable

in physiological terms. "The tendency to make psychology a study of behavior rather than an introspective analysis of mental states eventually made considerable headway and became known as Behaviorism."[2]

Instead of being an exclusively mental affair, learning was now understood as a process of physiological conditioning. It meant establishing neural connections by means of which a particular stimulus became associated with a "correct" response. Based upon the findings of the Russian physiologist Ivan Pavlov, most conditioning experiments were performed on rats, dogs, cats, guinea pigs, chicks and pigeons. Although John B. Watson is generally credited as being the founder of American behaviorism, most pioneer learning experiments in this field were performed by Edward Lee Thorndike, who set forth the thesis that learning was governed primarily by the Law of Exercise and the Law of Effect. The Law of Exercise accounted for the strengthening of stimulus-response (S-R) bonds through repetition; whereas the Law of Effect meant that neural connections were strengthened when a response was pleasant, weakened when it was not. Learning thus became a matter of conditioning the subject (the learner) to supply whatever response the conditioner (the teacher) deemed desirable. Mind was either ignored entirely or reduced to synaptic connections, and even purposes were regarded as merely mechanical. In Thorndike's own words:

> I read the facts which psychologists report about adjustment, configuration, drives, integration, purposes, tensions and the like, and all of these seem to me to be reducible, so far as concerns their powers to influence the course of thought or feeling or action, to connections and readiness. Learning is connecting. The mind is man's connecting system. Purposes are as mechanical in their nature as anything else is.[3]

Intelligence, insight, understanding, intention and any sort of abstract or affective thought were placed in limbo, for they were not directly observable; while the conditioned response or the reflex arc, as it came to be called, became the matrix of learning. Education thus became a matter of conditioning, which in some areas of learning amounted to no less than indoctrination, and the schools were expected to turn out prespecified products in much the same fashion as factories turn out automobiles.

II. Perception and Meaning

Behaviorism has undergone certain modifications since the days of Watson and Thorndike. Phrases such as "positive and negative reinforcement," "operant conditioning," "intrinsic and extrinsic motivation," "aversive stimuli" and the like have been added to its vocabulary. What remain, however, are the notions that (1) all behavior is specific and identifiable in terms of its causal factors; (2) human behavior is essentially no different from nonhuman behavior except in degree of complexity; (3) human beings, like all other animals, lack freedom; and (4) choice is nonexistent.

What the behaviorist fails to recognize is that all human acts are whole, and not merely the sum of their separate parts. Fragmentation of human acts into their sensory stimulus, ideational and response components—although tempting for analytic reasons—is both arbitrary and artificial. In so far as human acts are joined with and engaged in for a purpose, they are not simply motor responses to stimuli. The act of seeing, for example, is all one with purposiveness. The object seen is viewed in terms of its meaning, how it is interpreted, the purposes for which it may be used. To see is to-see-for-a-purpose. Viewing the Grand Canyon may mean for the tourist seeing-for-picture-taking purposes; the geologist may view it for the purpose of observing the erosive processes of nature; while Ferde Grofe's "Grand Canyon Suite" may represent its meaning to a composer of music.

No object or set of conditions constitutes a stimulus per se. It **becomes** a stimulus by being caught up in the process of ideation and response, of which it is an integral part. Stimuli are responses in their incipient stage. Nor are responses merely to stimuli; they constitute stimuli transformed, mediated by the motor phase of the so-called reflex arc. Response requires a reconstitution of stimulus, i.e., an assignment or reassignment of meaning. A stimulus responded to, acted upon, undergoes transformation in terms of the interpretation it is given. Nor can any object or phenomenon be considered a stimulus apart from the eliciting of a response or without a taking into account of the peculiar context in which it appears. A sudden, staccato sound is ordinarily perceived as a stimulus. It alerts us, it annoys us, it commands our attention. We attempt to locate and identify it, to determine whether it is cause for alarm. But if circumstances were such that what is ordinarily perceived as a loud noise is obscured by a steady drone of still louder sounds, it is unlikely that any observable response or motor activity would occur, in which case it would be unwarranted to call the noise a stimulus.

Listening to high-pitched notes being played on a piccolo might be pleasing to the ear of a flutist, and so might be judged as pleasant. A dog hearing the same high-pitched notes responds also, but not with enjoyment. It gives indication that the sounds are unpleasant by whining or withdrawing. We are wont to say that the musician and the dog are responding differently to the same stimulus, thus dissociating stimulus from response. But is this truly the case? Are the musician and the dog actually responding to the "same" stimulus? Or, as in the first example, is the warrant of calling something a stimulus contingent upon the presence or absence of a response and, as in the second example, is the nature of the stimulus part and parcel of the nature of both the response and the responder? As Spinoza once observed, "One and the same thing can at the same time be good, bad and indifferent; e.g., music is good to the melancholy, bad to those who mourn and neither good nor bad to the deaf."[4]

If the synergetic relationship between stimulus and response is still not clearly seen, the question might be raised as to where a stimulus ends and where a response begins. If no satisfactory answer to this question is possible, the only conclusion to be drawn is that a stimulus is one with its response—just as a cause is one with its effect and an organism is one with its environment. In commenting upon the inadequacy of the reflex arc concept, John Dewey has written:

> What we have is a circuit, not an arc or broken segment of a circle. This circuit is more truly termed organic than reflex, because the motor response determines the stimulus, just as truly as sensory stimulus determines movement. Indeed, the movement is only for the sake of determining the

stimulus, of fixing what kind of a stimulus it is, of interpreting it.[5]

This is to say that a stimulus and a response are not separate segments of an arc but are reciprocal, each a determinant of and determined by the other. Instead of representing a linear progression, they constitute a circuit. In the language of Dewey:

> The stimulus is that phase of the forming co-ordination which represents the conditions which have to be met in bringing it to a successful issue; the response is that phase of one and the same forming co-ordination which gives the key to meeting these conditions, which serves as instrument in effecting the successful co-ordination. They are therefore strictly correlative and contemporaneous.[6]

To suppose that a given stimulus always presumes a fixed response is to presuppose certainty where uncertainty may exist. To be confronted with an uncertain response—not to know how to respond—is to be confronted with an uncertain stimulus—not to know how to interpret it. A knock on the door ordinarily elicits the response of opening it. But if one has had a prior experience of opening the door to an intruder, both the stimulus and the response take on a character of indeterminacy. The qualitative nature of both is in question, and a choosing among alternatives is called for. Should the knock be interpreted as that of a friend (Stimulus A), in which case the door would likely be opened (Response A); or should it be interpreted as the knock of an intruder (Stimulus B), in which case the door would likely be bolted (Response B)? Or are still other interpretations possible, which might call for still other kinds of response? As Dewey states it:

> Generalized, sensation as stimulus is always that phase of activity requiring to be defined in order that a co-ordination may be completed. What the sensation will be in particular at a given time, therefore, will depend entirely upon the way in which an activity is being directed. It has no fixed quality of its own. The search for the stimulus is the search for exact conditions of action; that is, for the state of things which decides how a beginning co-ordination should be completed.[7]

To the nonplayer or the overly tired, a tennis court, racquet and ball are not a stimulus to play tennis; to the nonsmoker, a cigarette is not a stimulus to smoke; to the satiated, food is not a stimulus to eat. " . . . what makes some physical thing or trait a stimulus is the condition of the whole organism at the time, its needs and the kind of behavior in which it is already engaged."[8]

III. Conditioning and Intelligence

The argument is sometimes advanced that human beings and the so-called higher animals have more in common than they have differences. Indeed, a strong case could be made for the contention that the physiological equipment of all mammals is basically the same. All engage in eating, sleeping, locomotion, procreation, living and dying. All likewise confront and resolve problems, i.e., all are capable of exercising intelligence. Although nonhuman forms of animal life rely to a considerable extent upon inherited or genetically programmed behavior patterns, commonly referred to as instinct, it cannot be said that human behavior is without its instinctive component. For present purposes, instinct may be taken to mean those special kinds of behavior that are not a result of learning or reasoning but are native to a species—e.g., the web-building instinct of spiders, the nest-building instinct of birds or the storing-of-nuts instinct of squirrels. The fact that squirrels have been observed to store nuts persistently even in regions where nuts are available the year round tends to discount the notion that such behavior is consciously purposeful or intelligently directed. It is not a result of reasoning or learning but is endemic to a species, which is largely what is meant by calling it instinctive. The human infant likewise displays such instinctive forms of behavior as crying, reaching and grasping, restlessness, yawning, sleeping, etc. The homely remark that a baby is a yell at one end and complete irresponsibility at the other is nonetheless descriptive of an instinctive rather than a learned behavior pattern. However sophisticated, however subtly or grandiloquently manifested in adult life through the media of art, philosophy, science and religion, it might be maintained that most human endeavors are but highly refined extensions of our inborn tendencies to seek pleasure and satisfaction and to avoid pain and annihilation.

The foregoing argument has its merits, but it also has its share of flaws. One of its merits consists in its compellingly simplistic explanation of human behavior in terms of analogous nonhuman behavior. Its major flaw lies in a confounding of the necessary with the sufficient conditions of human behavior. Physiological equipment is a necessary requirement for thought, judgment, choice, ideation and the like—just as concrete and steel may be necessary requirements for the construction of a building. But physiology itself does not constitute thought, any more than concrete and steel themselves constitute a building. It is what human beings are capable of doing with their physiological equipment that represents their distinctiveness, just as what they may have decided to do with concrete and steel constitutes the distinctiveness of a building. As Psychoanalyst Robert Stroller puts it, "Anatomy is not destiny. Destiny is what people make of anatomy." Nature furnishes the raw materials, but man creates the patterns. The fact that the physiological equipment with which we are born is a necessary condition for intelligence is no guarantee of how or even whether it will be exercised. Intelligence is not an autonomous possession of human beings which manifests itself **in vacuo**; nor can it be written off as merely responsive behavior to environing situations. What role, then, does intelligence play in the behavioristic framework?

If, in the words of Dewey, "to act with an aim is all one with acting intelligently," it could scarcely be argued that to respond to the strongest stimulus is all one with responding intelligently. Lewis Terman once defined intelligence as the ability of an organism to adapt to a new situation. In his later years he said that he regretted having used the term "adapt," for it suggested passive response instead of active control. If choice is understood to mean deliberate selection of a preferred course of action, and if intelligent choice implies selection on the basis of considered ends in view, then the absence of choice-making ability is tantamount to the absence of intelligence. To put the matter differently, if by intelligence is meant the ability to choose discriminately among alternative courses of action, then to the extent that ability to choose is diminished or eliminated altogether, intelligence is likewise diminished or eliminated altogether. Whereas selective ability—or what Darwin called "natural selec-

tion"—is a common trait of all matter and all life, at the human level such selective ability has been sufficiently refined as to warrant the term choice, implying that peculiar kind of selectivity that is conscious, deliberate, reflective and undertaken for the purpose of realizing a foreseeable end. If by conditioning is meant the preprogramming of a response, then it becomes a substitute for deliberation, intelligence, and purposiveness. It leaves out of account the "inner being" of things and deals instead with external relationships only. If not to intelligence, to what do we resort in coping with situations for which we have no preprogrammed response?

As John Holt has rightly pointed out, "The true test of intelligence is not how much we know how to do, but how we behave when we don't know what to do."[9] The young man who, having read a book on etiquette, began conversation with his girl friend by asking, "How's your mother and little things like that?" and who started his business letters with "Dear Sir or Madam as the Case May Be:" may serve as a prime example of rote learning but scarcely of intelligence. To suppose that conditioning will provide for acting intelligently requires either a redefinition of intelligence or acceptance of the premise that life presents no uncertainties. Moreover, it is conceivable that persistent conditioning can lead to chronic anxiety, flattened emotions, depression and feelings of guilt. Men have been conditioned in some cultures to believe that weeping in time of sorrow is an unmanly trait that should be suppressed. Conditioning an affective response deprives it of its genuinely emotional quality and substitutes instead only a shallow, overt kind of behavior. Joys and sorrows are not merely forms of behavior; rather, they are deep-seated emotions that may or may not manifest themselves in behavioral terms. Behavior is but the tip of the iceberg we know as self. To regard the tip as constituting the whole is to construct a human psychology that ignores all but the most trivial and overt elements of the nature of man.

To conceive man as primarily a responding organism is to cast him in a passive role. Such a conception relieves him of responsibility for his actions and excuses him for his failures, for he has been victimized by external circumstances or genetic endowment—or both. To conceive man as capable of exercising initiative casts him in an active role, responsible for the choices he makes. Both classical idealism and modern existentialism have attributed to humans a kind of self-sufficiency that permitted them to rise above the exigencies of circumstance. In the language of Milton, "The mind is its own place, and in itself/Can make a heaven of hell, a hell of heaven." The human mind was thought to be autonomous, capable of rendering itself immune to external conditions. The power of humans through the inescapability of choice to become what they will themselves to be is echoed by Jean-Paul Sartre:

> If man, as the existentialist conceives him, is indefinable, it is because at first he is nothing. Only afterward will he be something, and he himself will have made what he will be. . . . Not only is man what he conceives himself to be, but he is also only what he wills himself to be after this thrust toward existence.[10]

"Condemned to be free," man is at every turn of his life confronted with choice, without which he is nothing. Such is the nature of the human predicament. Man becomes human at that point in his life when he realizes that from the burden of choosing, there is no escape. Whereas classical idealism and modern existentialism have conceived humans as largely self-determined and self-directed, behaviorism views them as other-determined and other-directed. What we are accustomed to call selfhood is nonexistent. Since there is no self as such, it becomes nonsense to speak of self-realization, self-actualization, self-fulfilment, or self-control. What we are offered instead is a kind of mechanism that responds to extraneous factors, i.e., to causes outside our control. The self, in short, cannot act, for it is capable only of reaction—if, indeed, there be any such entity as self at all.

IV. Was Dewey a Behaviorist?

It was stated earlier that much of the present confusion in education is traceable to indecision as to whether education should be conceived as an art or as a science—or as both. The argument might even be advanced that science itself is an art in the sense that it is an artifact, i.e., a humanly devised, created or contrived means for dealing with phenomena. Matters of ethics and morality would certainly fall within the rubric of art so defined, for they represent human constructs rather than raw data. If by art is meant the whole gamut of human creations as distinguished from what exists in the natural world apart from human intervention, the argument takes on a semblance of plausibility. The so-called social sciences in general and psychology in particular might then be viewed from a different perspective and seen in a different light. Obsession with measurement and quantification might give way to concern for seeing life whole. It is recounted that Dewey, once found with a copy of the **Psychological Review** in his hands, threw it down, exclaiming, "I despair of psychologists! They have no understanding of what science is. They think it has to do with measuring and counting."[11]

To Dewey and other pragmatists, to be scientific in the true sense of the term is to be critical-minded, and critical mindedness is not limited to physical concerns but applies across the board. They viewed the term science in broader perspective than those who fail to see the woods for the trees, i.e., whose preoccupation with bits and pieces of knowledge prevents them from seeing life whole. Both Dewey and present-day behaviorists have rejected mentalism, or what Gilbert Ryle has called "the myth of the dogma of the ghost in the machine." Piecemeal and out-of-context reading of Dewey might even suggest that he embraced behaviorism, as when he wrote:

> . . . instrumentalism means a behaviorist theory of thinking and knowing. It means that knowing is literally something which we do; that analysis is ultimately physical and active; that meanings in their logical quality are standpoints, attitudes, and methods of behaving toward facts, and that active experimentation is essential to verification.[12]

Context aside, does the above passage qualify Dewey as a behaviorist? The answer is that Dewey was a behaviorist in the sense that he rejected the notion of thought as an arcane process of **noesis** with no necessary issue in conduct, for he held that the whole purpose of thinking is to provide warrant for a given course of action. Behaving or acting he regarded as proving grounds for hypotheses. Behavior is not an end in itself but a means for testing the adequacy of a formulated course of action, for determining the justification of a theory by observing how it

works out in practice. Dewey was not a behaviorist to the extent that he joined theory with practice, thought with action, thus obviating any need for viewing reflection in isolation from behavior or behavior apart from reflection. Whereas behaviorism has little concern for reflection, to Dewey reflection was viewed as the indispensable means for rendering action intelligent and purposeful, thus preventing it from becoming random, accidental or blind; while action was seen as intelligent and purposeful only as it represented a consummation of thought.

V. Some Caveats re Social Engineering

Both behaviorism and pragmatism reject the notion of absolute human autonomy, i.e., the idea that human beings have some kind of inner will that enables them to cut themselves off from environing circumstances or past experience and to act **in vacuo.** There is a difference, however, between rejecting absolute autonomy and recognizing a degree of autonomy that provides for the exercise of intelligence in circumstances that are highly indeterminate and hence unpredictable in their outcomes. But whereas in the writings of Dewey the role of intelligence is nearly everywhere paramount, it is significant to note that virtually no mention is made of intelligence in the writings of the behaviorists. To Dewey, the learner is brought to maturity through the cultivation of critical, social intelligence. Every conception of the good is ultimately social, which is to say that it has to do with how we conduct ourselves in reference not simply to our own individual or selfish desires but to the general or social welfare; this, in turn, creates conditions whereby individual freedoms may be more fully realized. This is to say that an individual is no more or less free than the society in which he lives either restricts or protects his ability to exercise choice. Dewey likewise believed that scientific inquiry itself is a basically moral and social undertaking and therefore laden with moral and social obligations.

Except in a strictly biological sense, human nature is not given at birth; rather, it consists of those specific traits of character that have been deliberately cultivated through the medium of education. Human beings at birth are predisposed to act neither morally nor immorally. Moral conduct is learned rather than innate, and it is socially oriented rather than privately intuited. Nor is that kind of behavior that has been conditioned or indoctrinated in accordance with some set of rules governing "propriety" worthy of being labeled moral, for it lacks the undergirding of reflective accountability. In Dewey's thought moral intelligence is neither reified nor autonomized. Rather than referring to a person as having, owning, or possessing intelligence, Dewey prefers to speak of an individual as conducting himself intelligently. Use of the adverbial form prevents viewing intelligence as a thing or entity possessed and shifts the emphasis to its practical issue, i.e., to its consequences in action.

Behaviorist B.F. Skinner, on the other hand, apparently rejects intelligence as an avenue to the good life. Distinctions between good and evil are to be accounted for in terms of positive and negative reinforcement. Whatever reinforces us positively—i.e., elicits a pleasant response—is good, moral and right; whatever reinforces us negatively—i.e., elicits an unpleasant response—is bad, immoral and wrong. The survival of good over evil is thus guaranteed in the scheme of things, for, according to Skinner, it is our "nature" to seek positive reinforcements and to avoid negative ones.[13] This sounds as though it is "natural" for human beings to seek what is good and to avoid what is evil. Reminiscent of the romantic naturalism of Rousseau, it implies some sort of built-in mechanism, instinctive moral sense, or Kantian "immanence" that enables man to select positive reinforcements and to avoid negative ones—the very thing that behaviorists have elsewhere denied in claiming that all behavior is conditioned behavior. Moreover, it fails to note that many experiences may be satisfying that are not at all moral, and that many others may be unpleasant that are not for that reason evil. Acts of brutality may be gratifying to those of sadistic inclination, but are they for that reason good? Acts of self-sacrifice and deprivation may be unpleasant because of the hardships they entail, but are they for such reason bad? As Max Wingo states it, "If we grant . . . that goods are positive reinforcers . . . how do we know that those things that reinforce us positively are really good—that is, that they are desirable and worthy of being prized and sought after?"[14] The ultimate criterion that Skinner employs in determining the worth of a culture is survival. A culture survives to the extent that control is exercised over the behavior of its members.[15] In view of the fact that few social orders can be cited wherein greater control was exercised over the behavior of their members than that which prevailed during the Nazi regime, this appears to be a rather odd contention.

Perhaps Skinner had best confine his efforts to experiments with rats and pigeons. When he undertakes to play social engineer, he is venturing into a domain that is alien to nonhuman animals, viz., culture. His social utopias convey no profound recognition of what Unamuno has called "the tragic sense of life," but appear to be spun out of a cotton-candy kind of euphoria. Nor can his utopias in any way be regarded as guaranteed outcomes of the methods he employs; indeed, identical methods can be and have been used to produce and maintain human bondage. The notion that only "good" cultures survive—that is, that survival is the test for the worth of a culture—is belied by the fact that tyrannical monarchies, oligarchies and other forms of predemocratic social arrangement have a far longer history of survival than does democracy. The power of choice which democracy prizes has always been understood as ability to select freely among alternatives and to act accordingly. Only in situations where no alternative exists is choice denied, as in the drudging life of the slave or the strictured living conditions of the prisoner, for such lives require no more than conformity to rules already laid down. At authoritarian political levels what in simple psychological terms has been called stimulus becomes the prod of brute force, and response becomes submission to the whip of authority. Although Skinner carefully avoids reference to tyranny, in rejecting all semblances of human autonomy, what he substitutes are external controls as formulated by "enlightened" social engineers—which amounts to a euphemistic phrasing of authoritarianism. That such a view is sharply at odds with a fundamental precept of democracy is illustrated in the following passage from Dewey:

> Since a democratic society repudiates the principle of external authority, it must find a substitute in voluntary disposition and interest; these can be created only by education. But there is a deeper explanation. A democracy is more than a form of government; it is primarily a mode of associated living, of

conjoint communicated experience. The extension in space of the number of individuals who participate in an interest so that each has to refer his own action to that of others, and to consider the action of others to give point and direction to his own, is equivalent to the breaking down of those barriers of class, race and national territory which kept men from perceiving the full import of their activity.[16]

VI. "The Hypothesis That Man Is Not Free . . ."

Frequently overlooked in discussions of Skinner's brand of behaviorism is a key premise upon the warrant of which much of his psychological structure stands or falls. He states it as follows: "The hypothesis that man is not free is essential to the application of scientific method to the study of human behavior."[17] In the first place, it should be noted that this is a hypothesis, an assumption without proof, a provisional or suppositional statement, verification of which has never been established. In the second place, the assertion begs the question, for it requires us to assume the warrant of a statement that is itself open to question, viz., that scientific method is applicable to a study of human behavior **only** if it is first hypothesized that human beings are not free. This is equivalent to holding that scientific study is not only hampered but impossible where the object studied behaves unpredictably, thus violating humanly formulated laws governing its behavior. In the third place, despite inclusion of the word scientific, the statement itself is patently unscientific, for it flies in the face of a major requirement of all scientific propositions, viz., that they be in fact or in principle testable. Untestable hypotheses for this reason cannot be viewed as truly scientific. In the fourth place, application of scientific method to a study of human or any other kind of behavior would begin, not with a prejudgment—in this case, that human beings are not free—but with impartial inquiry. Indeed, not to do so would be the antithesis of scientific method. In the fifth place, the assertion is covertly prescriptive in its claim that the hypothesis **must** be accepted ("is essential") before study of human behavior can be undertaken, and so is hortatory rather than descriptive. It shows, to paraphrase Bertrand Russell, that the worse your premise, the more curious the conclusions to which it gives rise.

If human beings were not free to act in unanticipated ways, their behavior would of course more easily lend itself to study and prediction. What Skinner may be thinking is—to phrase it in the vernacular—that accepting the hypothesis that man is not free would make the study of human behavior a helluva lot easier. "Sit still! Don't move!" the professional photographer often says to his subject, meaning that the photograph will be clearer if the subject engages in no unpredictable movements. The portrait painter makes a similar request of his subject. This is suggestive of Michael Scriven's remark that "the logician's perennial temptation is to make the portrait neat and perhaps the sitter will become neat."[18] Just as it is easier to take aim at a nonmoving target, so it is simpler to study an object that "stays put." Whether it is of the nature of the object to stay put is conveniently ignored. Instead of beginning with disinterested inquiry into human behavior, we are asked to begin with an assumption about human nature that is not only unsupported by the evidence but, indeed, is denied by it. Even so exact a science as physics recognizes the indeterminacy of atomic particles, to say nothing of the questionableness of the cause-effect principle as an adequate explanation of natural phenomena. Moreover, theorizing about human nature is a different undertaking from studying human behavior and, if engaged in on a scientific basis, would properly follow rather than precede the latter.

Only a wholly static universe would be entirely predictable. Hence, predictability is related not only to simplicity and mechanism but also to fixity, not to mention its reliance upon an outmoded physics. If, as William James once observed, ours is "a universe with the lid off," if universal processes are charged with novelty and burgeoning with change, if life is an ongoing and dynamic affair, if novelty is in the scheme of things and not merely superimposed upon it, then a radically different approach to a study of human nature and life processes is called for. Mechanism needs to be supplanted by field theory, and prejudicial hypotheses by inquiry. To hold that it is essential that we begin a study of human behavior by hypothesizing that human beings lack freedom is equivalent to assuming without question that they have no ability to engage in acts of choice. Since the only kinds of choice that deserve the name are those that are freely undertaken, choice is essential to democracy, for the ability to choose without undue restraint and to act accordingly is precisely what is meant by freedom.

If there is to be a science of human behavior—and if it is to be truly a **science** and not merely an apologetics—then it is obligated to divest itself of its biased premises in order to become descriptive, objective and impartial. Inquiry into the nature of human behavior will need to displace "the hypothesis that man is not free," for the former is open-ended, whereas the latter begs the question. The question, "Is man free to behave in unpredictable ways?" is thus bypassed; and the hypothesis remains undisturbed. This is not unlike saying that the hypothesis that ghosts exist is essential to studying their behavior, thus circumventing any question as to their actual existence. To begin with the hypothesis that man is not free demands corollary acceptance of human beings as capable of no more than responsive behavior—as devoid of choice, as deprived of any kind of self-control, and as essentially no different from nonhumans. Yet, even a trapped animal struggles to be free, just as animals in captivity are restricted in what they are free to do. As the noted primatologist Scott Lindbergh has observed: "Monkeys in zoos are like convicts. They have no choice in anything. And choice is essential to keep intelligence alive. Animals are like people. They need to be able to do things for themselves." To say that man's most prized possession is freedom may be to use figurative language. But it may be worth noting that such an assertion is more often made with greater fervor and understanding of its import by those who have experienced bondage than by those who have never been enslaved.

VII. Concerning Poets, Women, and Hens

Are human beings responsible for what they do? What role does the self play in determining human conduct? Or are all human acts prompted by forces extraneous to themselves, and is the term self merely a metaphor? We shall examine these questions in greater detail in a later section. Suffice it to say at this point that to embrace behaviorism is to accept the thesis that selfhood is nonexistent. What we are accustomed to calling self is simply genetic endowment plus conditioning

and has no existence of its own. Human beings are thus relieved of assuming any moral obligation for what they do, for instead of having chosen to do this or that, their behavior has resulted from factors over which they had no control. Neither saints nor sinners are responsible for their actions; hence moral acts are no more deserving of praise than are criminal acts deserving of condemnation. Nor are artistic accomplishments any more suitable objects of admiration than are diabolical schemes fit objects of scorn. According to Skinner, "having" a poem, for example, is essentially no different from "having" a baby. Nor is it any different from a hen laying an egg. In each case it is simply descriptive of a natural phenomenon for which neither the pregnant woman, nor the "pregnant" poet, nor the laying hen is primarily responsible. The poet is no more deserving of acclaim for having written his poem than is the woman for having had her baby or the hen for having laid its egg. "Writing a poem," says Skinner, "is the sort of thing men and women do as men and women, having a baby is the sort of thing a woman does as a woman, and laying an egg is the sort of thing a hen does as a hen." We are able to discover the causes of our actions "by analyzing the genetic and individual histories responsible for our behavior. . . ."[19]

But suppose we were to choose a different cast of characters without altering one whit Skinner's line of reasoning. Suppose we were to say that committing crimes is the short of thing men and women do as men and women, becoming a prostitute is the sort of thing a woman does as a woman, and stalking prey is the sort of thing a wild animal does as a wild animal. And suppose we were to add that, just as the poet had no responsibility for writing his poem, neither can criminals or prostitutes be held accountable for their criminal acts or prostitution. In the case of the wild animal, Skinner's explanation will suffice. But this is precisely the point. The wild animal behaves as it does because it cannot behave otherwise; accordingly, it would be foolish either to praise or to blame it. It lacks developed powers of reflection, it lacks moral sensibility, it lacks ability to choose one course of action over another—and so condemning its behavior would be like condemning a tornado for its destructive force. Having committed the genetic fallacy, Skinner then proceeds to commit the fallacy of overgeneralization. To suppose that because man is an animal he is therefore nothing but an animal is to commit what the geneticist Sir Julian Huxley has called "the nothing-but fallacy," which results from an equation of all human traits with nonhuman animal traits. What we are being asked to accept is that, since nonhuman animals (or, to use Skinner's example, hens) are not responsible for what they do, therefore human beings are equally nonresponsible for what they do. The flaw in this sort of reasoning might become more apparent if the argument were reversed, resulting in the conclusion that, since human beings are responsible for their actions, therefore nonhumans are equally responsible, in which case a sow could be arrested and brought to trial for the crime of devouring her young. One argument has about the same amount of credibility as the other—which isn't much.

Arguments against the thesis that human beings are absolutely autonomous in all their thoughts and actions constitute child's play. No philosophic profundity is required to recognize that we are at all times engaged in interaction with some kind of environment—be it physical, psychological, religious, cultural, social or whatever—and that previous experience plays a significant role in shaping present and future behavior. But it is one thing to acknowledge that prior experience is taken into account, is influential, becomes a contributing factor, or has a bearing in respect to our behavior, and quite another to hold that it predetermines our behavior. In rejecting human autonomy, what behaviorists do, in effect, is to substitute environmental autonomy. By casting the human being in a passive role of responder, they cast the environment (plus genetic history) in an active role of controller, overlooking the fact that abject submission on the part of one or autonomous control on the part of the other is virtually never the case.

If we were to fall from an airplane without a parachute at a height of 16,000 feet, we would likely have lost control of our destiny, and the environmental field might be said to have taken over almost completely. In times of catastrophes such as cyclones, earthquakes and strikes of lightning, our powers of choice are temporarily minimized; and we are said to be at the mercy of the elements. But such instances are comparatively rare; they are far outnumbered by examples of man's ability to control the conditions under which he lives. Each time an engineer constructs a dam, each time a physician intervenes in the natural course of a disease, each time new and better means of communication and transportation are devised, human beings are playing an active role in shaping and controlling their environments.

The concert artist who holds an audience enthralled, the conductor whose every gesture conveys subtle nuances of interpretation to an orchestra, the writer whose literary genius captivates the reader, the actor or actress whose performance is acclaimed as brilliant—all are likewise in control of what they are doing, all are shaping and creating a special kind of environment. In such latter instances, the argument is not that they are absolutely autonomous, for they must enlist the co-operation of factors other than themselves. But they are nevertheless exercising a significant degree of autonomy in that they are creating, inventing, or bringing into being a different set of conditions than would otherwise prevail. Human beings both act upon and respond to their environments. The relationship between individuals and their environments is transactional rather than unilateral. In fact, it is this peculiar ability of humans to conceive and to actualize modifications of their environments that constitutes their uniqueness as human beings and thus distinguishes them from other species.

VIII. The Concept of Selfhood

Throughout our discussion the role that self plays in this transactional process still remains clouded, perhaps for the reason that the terms self and selfhood have yet to be clearly defined. Behaviorism would of course reject the notion of selfhood, just as it would discount the existence of free will. Rejection of such terms as existences or entities, however, is not equivalent to their rejection as concepts. Behaviorism itself is a concept in the sense that it cannot be pointed to as "existing" anywhere. Notwithstanding, little is gained by dogmatically maintaining that the self exists or that human beings have free will, and letting it go at that, without bothering to clarify what is meant when such assertions are made. What, then, does it mean to say that the self exists? To exist is, in familiar terms, to have weight and occupy space. Obviously, the self cannot be so classified. To say that to exist means to

have temporal-spatial dimensions doesn't help much either, for this would require that the self be locatable in time and space. The edge that the behaviorists have on those who understand the self to exist in some autonomous sense is that the notion of a hypostatized self is scientifically indefensible. And so the behaviorist confronts us with deciding between discarding the self as a discredited entity under the guise of scientific rigor, and holding on to it in the name of some sort of metaphysics. The fact is that we are not obligated to settle for either of these alternatives.

Just as water is not simply two parts of hydrogen and one of oxygen but is a liquid exhibiting properties quite different from either of its constituent elements, just as a child evinces qualities quite different from those of the parents who produced him, so the self displays traits of its own that are appreciably different from whatever forces may have contributed to its creation. The emergence of consciousness, moreover, suggests degrees of self-awareness and powers of introspection that neither genes nor conditioning can account for. What is called self emerges from the active interplay of human organisms with their environmental fields, and especially from the interaction of human beings with their distinctively **social** environments. Self is neither a thing or entity possessed nor a mere metaphor; it is an emergent function, descriptive of the various ways in which humans both respond to and control the ambient fields in which they live, move, and have their being. Accordingly, self may be defined as **a conceptual term denoting an individual's peculiar awareness of his own existence in relation to the world about him, and especially of those unique traits that set him apart from others.**

Similarly, free will is not an entity or metaphysical substance; nor is it autonomous in the sense that it exists in isolation from contextual circumstances. It is simply an ill-chosen term that needs to be redefined as **the power to choose without unwarranted restraint from among competing alternatives.** Since no choice deserves the name that is not freely undertaken, it carries with it the burden of moral responsibility for the consequences to which it may lead. The fact that nonhuman animals give no indication of acting in any moral sense but behave on the basis of instinct, habituation, or conditioning necessitates the conclusion that morality is a uniquely human construct. Nor can any human act be dignified as moral except as it is an outgrowth of reflection, intention and consideration of the desirability of all its probable consequences.

IX. The Is-Ought Dichotomy—A Backward Look

Two final considerations are in order. The first has to do with an attempt to clarify the relationship between statements of fact and statements of value; the second concerns a neglected but much-needed distinction between generic behavior and human conduct. **Pace** David Hume and latter-day British empiricists and philosophic analysts, it has become fashionable to regard empirical assertions and valuational assertions as constituting separate universes of discourse—commonly referred to as the is-ought dichotomy. According to this view, factual (or synthetic) statements consist of assertions that can be empirically verified; furthermore, only empirically verifiable assertions may be considered to be propositions. The assertion, for example, "It is raining today" is factually true in so far as evidence can be cited in support of it, in so far as what constitutes evidence can be agreed upon, and in so far as the evidence is publicly demonstrable. When such conditions are met, the proposition would then "compel the assent" of any impartial observer, i.e., it may be said to be true. A more technical assertion, like "$E = MC^2$," would need to meet the same criteria, with the understanding, of course, that evidence in this case might be quasi-mathematical, and that "publicly demonstrable" would no doubt refer to its demonstrability to a community of qualified physicists. In neither case, however, could such propositions be judged as true on any such basis as intuition, feeling or any other sort of nonempirical "authority."

The corollary of this view is that statements of value are of an entirely different order and are traceable to emotion rather than rooted in fact. They are regarded as "veiled imperatival utterances," which is to say that they are either direct or indirect exhortations to action. "Close the window" is an obvious exhortation to act in a specific way, and so is neither true nor false. Sentences couched in the indicative mood may pass as assertions of fact; but if they conceal a value, an "ought," or an imperative, they are said to be removed from the category of the synthetic. The judgmental assertion, "The welfare system of this country is in need of reform," appears superficially to be a statement of fact. It is phrased in the indicative mood. It omits the word "ought" and seems to be an observation of fact, of a particular state of affairs. But what is actually being asserted, it may be argued, is not a fact but a feeling. What the assertion really says is, "I **feel** that the welfare system needs to be reformed," or, "The welfare system **ought** to be reformed," or, more directly, "Reform the welfare system!"

The judgmental assertion about the welfare system is, like all other judgments, reduced to no more than an expression of emotion. So conceived, truth assertions (propositions) are regarded as scientific and testable, while judgmental assertions (valuations) are regarded as emotive and untestable—and never the twain shall meet. In the words of A.J. Ayer: ". . . since the expression of a value judgement is not a proposition, the question of truth or falsehood does not here arise.[20] . . . exhortations to moral virtue are not propositions at all, but ejaculations or commands which are designed to provoke . . . action of a certain sort. Accordingly, they do not belong to any branch of philosophy or science. As for expressions of ethical judgements, we have not yet determined how they should be classified."[21]

If philosophy differs from science in any cogent way, the difference lies in recognition of science as largely descriptive and phenomenological and of philosophy as interpretive and judgmental. The philosopher is, as it were, an impressionist; while the scientist is a photographer. Although appropriate distinctions may be made, the mistake commonly made is to presume a gap or disparity between these two domains instead of viewing them as complementary. "How satisfying," says Mr. Gradgrind in Dickens' **Hard Times,** "is the possession of fact, which does away with any mystery surrounding our daily life!"—forgetting that to know all facts and possess no feelings is not to live at all. What does it mean? is everywhere the paramount question, for no factual or descriptive statement has any significance except as it is interpreted in some way or assigned some kind of meaning. An out-of-context fact—i.e., a fact devoid of its bearing upon human interests and human concerns—is

utterly meaningless. Thus, the assertion that Sanskrit was the ancient Aryan language of the Hindus of India, despite its factual accuracy, is infinitely less meaningful than that a close friend or relative has been seriously injured in an accident.

Like the stimulus of our earlier discussion, a fact has no intrinsic meaning. It assumes meaning when we judge or interpret it in some manner, value or devalue it, assign importance or unimportance to it, react to it in a particular way—which is to say that facts are what they mean. To speak of a value-free fact is to speak of a fact with no utter significance, for meaning consists in what Dewey has called "the emotion it stirs, the thought it sustains." The assertion "It is raining today" is understood in terms of what it means as distinguished from what it merely informs. It may mean that a proposed picnic will have to be canceled, or that crops will now have a better chance of surviving, or that an intended visit will need to be postponed, or any of countless other things, each of which is likely to be fraught with pleasure or frustration. Even so apparently dispassionate an assertion as "$E = MC^2$" is modified and takes on meaning by virtue of its affective content. It may simply mean that mass and energy are interconvertible and summon visions of the benefits to be derived from nuclear fission. Or it may symbolize the atomic bomb, mushroom clouds, and the tragedy of Hiroshima, and cause us to recoil in horror. All of this is another way of saying that the moral, judgmental or valuational content of propositions is not something apart; on the contrary, it is precisely what endows them with meaning, without which they have no value or significance.

Equally indefensible is the notion that valuational assertions are unrooted in or somehow disconnected from any empirically verifiable context, or that they in some way transcend experience. Judgments are properly rendered and valuations properly made only by taking into account existing situations, i.e., facts. What ought to be done in a particular circumstance depends upon what is the case. "Ought" assertions are thus subject to criticism as to their warrant in much the same way as are synthetic assertions. To say, for example, that a street ought to be paved would be warranted only if the facts indicated that its present condition was unsatisfactory, that it had chuckholes that interfered with safe driving, that it had a heavy flow of traffic, etc. To say that a greater abundance of food is needed in a given area would be warranted only if the facts indicated that the particular area referred to was in short supply of food. That certain things are prized, valued and revered and that others are scorned, devalued and condemned is not only itself a fact but it is derived from fact, i.e., it is warranted by knowledge. Clean air is prized because of the fact that it is conducive to health, while pollution is condemned because it is known to contribute to respiratory disease. The growing of vegetables is valued because of the fact that their consumption is necessary to a balanced diet, while malaria-carrying mosquitoes are decried because they are known to be harmful to health.

The traditional argument that an "ought" assertion is not deducible from an "is" assertion will no longer suffice, not because it is invalid but because it substitutes "slide-rule" logic for fruitful inquiry. It represents a holdover from an obsolescent syllogistic or Aristotelian sort of reasoning which is rooted not in human experience and human affairs but in not much more than esoteric intellection. To argue that there is utterly no relationship between what is true and what is valued is not only unwarranted but untenable. As Dewey has observed, "The notion that valuations do not exist in empirical fact and that therefore value-conceptions have to be imported from a source outside experience is one of the most curious beliefs the mind of man has ever entertained."[22] He goes on to say that

> . . . at the present time the widest gap in knowledge is that which exists between humanistic and non-humanistic subjects. The breach will disappear, the gap be filled and science be manifest as an operating unity in fact and not merely in idea when the conclusions of impersonal non-humanistic science are employed in guiding the course of distinctively human behavior, that, namely, which is influenced by emotion and desire in the framing of means and ends; for desire, having ends-in-view, and hence involving valuations, is the characteristic that marks off human from nonhuman behavior. On the other side, the science that is put to distinctively human use is that in which warranted ideas about the nonhuman world are integrated with emotion as human traits. In this integration not only is science itself **a** value (since it is the expression and fulfillment of a special human desire and interest) but it is the supreme means of the valid determination of all valuations in all aspects of human and social life.[23]

Joining of the factual with the valuational is not without its educational import. Although it may be argued that how learning occurs is a factual question, and that what is valued is a philosophic one, the two become inextricably interwoven when it is recognized that what is learned and how it is learned assume significance only in terms of ends or purposes. Of what value is such-and-such a learning? thus overrides the question of how a particular kind of learning occurs or how it is best facilitated. Experimentation concerning the nature of the learning process may yield the conclusion that, given a certain organism and a specific set of environing conditions, this **is** the way learning occurs. But such an assertion leaves untouched the larger question of whether a designated learning device **ought** to be used, or whether what is learned by means of it **ought** to be learned at all. It is becoming ever more apparent that an is-ought dualism is both tenuous and stultifying, suggesting as it does that a fact need have no relevance to value and that a value need have no referent in fact. Dissolution of such a dichotomy would bring about recognition of the scientific and the valuational as reciprocal rather than as disparate categories. It would join science of learning with philosophy of education in common cause by utilizing the knowledge that research supplies toward a realization of ends that are individually and socially defensible. It might even provide for the emergence of some sort of wholeness or coordinating principle that may enable us to regain our educational perspective.

X. Generic Behavior and Human Conduct—A Needed Distinction

It is commonplace that everything that exists is in some sense unique. No two atoms, no two flowers, no two snowflakes, no two sunsets, no two twins are precisely identical. In the animal kingdom it is the unique characteristics that various organisms exhibit that enable us to

identify them as belonging to a certain species, notwithstanding the fact that they may share many traits in common with other species. By contrast, to say that every form of life and matter engages in some sort of behavior, or that behavior characterizes all that exists, is a loosely grandiose rather than a sharply definitive assertion, for it fails to account for any uniqueness among the entities to which it is applied. So used, the term behavior is all-encompassing, ranging all the way from the actions of subatomic particles to those of galaxies, from the actions of amoebae to those of human beings. What is probably being taken into account in asserting that all things behave is that movement of some sort is everywhere present—be it the slow progression of a glacier or the speed of light. When the term behavior is thus used, no distinction is made between behavior that is a result of an object's being acted upon (as the case of a glacier) and behavior that is self-initiated (as in the case of human beings). Such a view fails to differentiate between reactive and creative behavior. If, in reply to asking what does not behave, we are told that nothing exists that does not behave, then the term behavior ceases to have any definitive meaning, for it cannot be distinguished from nonbehavior. By way of analogy, if everything were wet, dry would have no meaning; or, if there were no darkness, light would have no meaning. Terms have meaning and thus are definitive only as they can be differentiated from other terms.

Does this imply that the term behavior should be restricted to nonhuman forms of life and matter and that it is inapplicable to human beings? Does it mean that human beings do not behave? Does it discount the validity of a science of human behavior? Not at all. Human beings, along with all other living organisms and physical entities, do act in ways that may properly be termed behavioral, if for no other reason than that they engage in movement. But whereas all engage in movement, and whereas many human activities may constitute no more than movement, all such activities fall within the rubric of noninitiated or **responsive** behavior. In response to nutrients in the soil, rainfall, and conducive temperatures, a plant grows and blooms; in response to proper training, a dog obeys its master; as a result of the pressing of certain keys, a typewriter responds by producing typewritten words and sentences; in noticing the changing of a traffic light from green to red, a motorist responds by applying the brakes of a car. All such behavior is responsive, and responsive behavior is as characteristic of human beings as it is of nonhumans. But it will scarcely do to conclude that because human beings engage in responsive kinds of behavior, therefore **all** human behavior is responsive, i.e., that human behavior is identifiable in no other sense. This would be like saying that because machinery is used in the manufacture of automobiles, therefore all machinery is so used and is identifiable in no other sense.

Not long ago arguments about such issues as free will **vs.** determinism and heredity **vs.** environment dominated the educational scene. The unexamined assumption that exclusive attachment to one position or the other was our only option precluded consideration that a qualified acceptance of both positions was not only possible but reasonable. Inquiry is thwarted and dogmatism creeps in when it is supposed that only one point of view is completely right and that any other is all wrong. The mistake that behaviorists make is to conclude that because so-called free will cannot be reified, man is therefore not free, and so is incapable of choice. What is overlooked is that to choose is to engage in a kind of behavior, i.e., that choice has its behavioral dimensions. It is crucial to add, however, that a "choice" that has been predetermined is not a choice at all, for to speak of a "conditioned choice" is to employ mutually contradictory language. Thus viewed, selective behavior is not choice itself, nor is it the whole of it; rather, it represents but the observable tip or overt culmination of choosing. Whereas the existentialist would have us believe that we are always confronted with choice, the behaviorist would have us believe that we are never free to choose. Why not say that we experience some situations in which the possibilities for choice are virtually unlimited and others where they are severely restricted?

This suggests that in situations where individuals are relatively free to control, take charge of, or assume responsibility for their actions, the term conduct be used, and that the generic term behavior be applied in describing actions and movements that are merely responsive. One does not speak, for example, of atoms, worms, hens, dogs, trees or stars as in any sense conducting themselves, for their behavior is for the most part in response to forces over which they have virtually no control. Even here, however, it is important to add that an object itself is as much a determiner of its behavior as are external forces that play upon it. A marble and a wad of chewing gum may be placed on the same inclined plane. Both are in the same gravitational field. Yet each responds differently. The marble selects to roll, while the wad of gum selects to remain in place. Such selectivity is, of course, neither conscious, deliberate nor purposeful. It is simply illustrative that the nature of an object itself is as much a selector of its behavior as are the external forces to which it responds. Selective ability thus understood is characteristic of all forms of matter; whereas choice represents that peculiar refinement of selective ability that renders it reflective and purposeful, and that makes possible a realization of foreseeable ends. Accordingly, in so far as it suggests a significant degree of conscious, purposive self-regulation, conduct is a uniquely human trait and cannot be applied to any other form of life or matter.

We are often misled into denying the uniqueness of human beings by the argument that their biological and physiological equipment is essentially no different from that of their nearest nonhuman relatives, all of which display varying degrees of intelligence. But this argument misses the point, for the distinctiveness of human beings lies not in their physiological equipment but in the uniquely human ways in which they are capable of putting such equipment to use. As some geneticists maintain, human evolution in a strictly biological sense has probably run its course, but human evolution in terms of the development of moral and social intelligence has probably just begun. Mastery of the forces of nature outside us has outstripped our ability to master the forces of nature within us. We have succeeded to a terrifying extent in controlling our physical environment, but we are only beginning to learn the importance of controlling ourselves in a moral sense. This means, first, that man's future evolution will likely be in terms of developing and refining his intellectual, moral and aesthetic powers; and, secondly, that for the first time in human history the course of man's future evolution will be within man's collective power to control. This is neither an optimistic nor a

pessimistic observation, for it opens up possibilities for both dire and beneficent consequences. Impartially it places the burden of choice in regard to the kind of future world man prefers to live in squarely on man's shoulders; it places man in charge of his own destiny. Whatever outcomes emerge will depend upon how human beings choose to conduct themselves, and how they choose to conduct themselves will depend largely upon the kind of education to which we choose to expose them. How, then, should education be conceived?

To ask, What are the purposes of education? is to ask a meaningless question, for it assumes that purposes are ready-made, lying about, extant, waiting to be discovered. A better question to ask would be: In light of past experience, present conditions and future possibilities, how shall we best formulate the purposes of education? This is a perennial question. It needs to be addressed again and again, for as conditions change and as further experience is gained, purposes will be correspondingly modified; and suitable answers for one generation may be unsuitable for the next. This is not to advocate a wishy-washy relativism; nor does it mean that whatever ends have served us well in the past must be discarded simply because they are not new. On the contrary, it means that no educational ideal can claim exemption from periodic review, and that enduring values may as often be found worthy of retention as innovations may be found wanting. Whether or not it reflects a paucity of educational thought, the fact is that most recent educational innovations have appeared in the form of teaching and learning devices. What is lost sight of when education is so narrowly conceived is that no teaching or learning device is worth its salt that divorces itself from the ends it is designed to achieve. Devices are by definition means, they are instrumentalities, and so they are not self-contained but are to be judged only in terms of whatever purposes they are meant to serve.

Behavior manipulation or conditioning cannot be faulted on grounds that it doesn't bring results. Massive evidence could be cited to refute such a charge. Indeed, much of human history is an account of the conquest for control of human thought and human behavior. But desired results need to be carefully distinguished from results that are truly desirable. What is merely desired may be based upon no more than impulse, caprice, habit or tradition, to say nothing of self-serving interests; while what is in fact desirable requires enlistment of powers of reflection, judgment and evaluation. Awareness of what is merely desired is shared by humans and nonhumans alike; but formulation of what is desirable is characteristic only of human beings, for it demands choosing among alternatives in regard to their long-range individual and social benefits.

Preoccupation with fads, devices and gadgetry has distracted us from attending to education's more important functions. Preoccupation with behavior manipulation has deflected our concern from the attitudes, values and ideals of the learner. As a result, we have prized not knowledge, reponsibility, and understanding but a semblance of them; we have forgotten that to live without purpose is not to live in any human sense at all. If, with Dewey, we hold that "the ideal aim of education is creation of power of self-control"[24]—and if such aim is taken seriously rather than as platitude—a shift from preoccupation with behavior to concern for conduct is in order. Concern with reflection for its own sake divorces thought from its practical issue in conduct, while exclusive concern with behavior fails to provide for its being a culmination of reflection. Although all behavior may be regarded as in some sense controlled, **that unique kind of behavior over which individuals exercise self-control and that is not exclusively shaped by factors extraneous to themselves is precisely what is meant by conduct.**

Use of the term conduct has the advantage of distinguishing thoughtful, purposive and morally sensitive activities from those that are merely accidental or habituated. Conduct requires acceptance of responsibility for actions deliberately undertaken as over against indifferent and merely responsive kinds of behavior; it represents a conjoining of reflection with action. In so far as self-control is not inborn, it is a crucial task of education to create, nurture and develop it in individually and socially productive ways. To learn is to grow in powers of responsible decision-making; and to educate is to foster utilization of such powers in the intelligent conduct of life. All skills and knowledge are necessary means to this end.

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The People Page

Wright Angles

by larry wright