On the Virtues of Being a Psychologist

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Some changes that have taken place in psychology are discussed in the light of the presently urgent need for a new science of psychology that addresses the important social issues of our times. Substantial development of the experimental analysis of behavior is urged, through its formulation of research problems related to every aspect of contemporary life, extending from political negotiation and economic decision making to the study of personality and individual differences.

No one denies that human societies are in a crisis. Statements have become common about rapid depletion of our natural resources, overpopulation, poisoning of the air we breathe and the food we eat by the waste products we ourselves produce, and, above all, the danger of annihilation by nuclear warfare. They fall off our lips with ease and we are hardly affected when we hear them from others. The general statements are no longer news, but they come to our attention only when particular alarming events occur around the world such as nuclear accidents, famine, and the heightening of international tensions.

Everyone who has even a superficial knowledge of history knows that cultural and political turmoil, massacres, wars, and revolutions have always been with us. No society has been free of individuals who commit injustice, theft, murder, and rape—even though in retrospect we look to certain periods of some societies with admiration and envy because then, relative to the common picture, there was little of all that. Nevertheless, there is now a commonly held belief that the present state of the world is far worse than ever before; that we now face the prospect of disasters not only greater in dimension, but also different in kind. For the first time in history, the possibility exists that all of our cultures might be annihilated in one fell swoop.

What has changed?

There are at least two possible answers to this question: first, that human nature has become worse in recent decades and, second, that while our nature has not necessarily altered in any fundamental way, the consequences of our actions have vastly increased in magnitude. When, only a century ago, the leader of a nation, having been angered at some political affront, could have sent his armies to war and caused the death of thousands, now that leader may have the capacity to order the annihilation of entire cities and continents. Although there is no evidence of a marked deterioration in human nature, the evidence is clear that the efficiency and magnitude of the techniques and instruments that can be put to destructive use have increased at an unprecedented rate. Even a superficial comparison of what technology could do in 1938 (when the *Behavior of Organisms* was published) and what it can do now, 50 years later, would leave in awe even the most cynical of individuals. In contrast, however, our understanding of human nature and, through it, our ability to control human behavior has not progressed at anywhere near the same rate. The need to narrow and eliminate the resulting behavior-technology gap presents us with the most urgent challenge of our times; it may well be the greatest challenge of all time.

The basic problem is not new. Gaps of this kind, where demands of technology have outstripped the then existing limits of human performance, have arisen in the past. An example of it occurred in mid-nineteenth century England when

This paper is dedicated to B. F. Skinner, on this 50th anniversary of the publication of *Behavior of Organisms*. Communications about the paper should be sent to Peter Harzem, Department of Psychology, Auburn University, Alabama 36849.

large numbers of workers, enticed to factories from farms at the prospect of better wages, could not efficiently operate the complex machinery, follow printed manuals, keep production records, and so on, all because they could not read and write. This was a significant factor that led, eventually, to the passing of the compulsory education bill ensuring, in due course, that the work force would have the behavioral repertoire necessary to operate the then available technology. (For an interesting account see, e.g., Dodds, 1953.)

In that particular situation, the need was that of putting to relevant use the educational technology that already existed, imperfect though it may have been. The problem now facing humanity is both greater in dimension and more complex in kind. We face, in fact, two major problems. The first problem is that of developing effective training techniques for personnel who are to operate safely the highly complex systems we have created. Because the consequence of an error may be so devastating, we must narrow and seek to eliminate the behavior-technology gap that already exists, and we must ensure that it does not arise again. One need only point to the Chernobyl incident to emphasize this need. Second, communication technologies have broadened and rendered immediate the effects of political and economic decisions. A decision reached in Washington will have its effect in, say, India in a matter of minutes. Points of no-return are now reached rapidly. In order to master these situations and not to be inadvertent victims of them, we must understand the fundamental behavioral phenomena that occur under these conditions. To sum, contemporary society *needs*, for survival, the kind of knowledge that a science of psychology can provide, so as to bring under control political-economic-military events that have become, through technology, so powerful and so dangerous.

The proposition that social ills are best cured through a science of human nature is not new. Thomas Hobbes (e.g. 1839; original published in 1651), much im-

pressed by the writings of Galileo and the advances coming from the methods of the natural sciences, conceived the idea that similar advances may be possible regarding social order by the application of the same methods. Auguste Comte (1913; original published in 1836) claimed by contemporary sociology as its founder, but who equally deserves recognition in psychology, thought that evils of society can only be prevented through the development of an empirical/theoretical science of society, this entailing the scientific understanding of human nature. Comte had been deeply affected by the devastation caused by the French revolution, and sought to prevent its repetition. More recently, in contemporary psychology, B. F. Skinner has stood alone in showing sustained concern for the broad problems of our cultures and in describing techniques that may be used to resolve some of these problems (e.g., 1953, 1972). Regardless of whether the reader is conceptually in accord with Skinner, and whether empirical data do and will support his theories, Skinner's pioneering role in psychology, in this regard, cannot be denied. In recent decades psychology has not, however, followed Skinner's lead. Instead, it has turned to parochial issues verging, sometimes, on the trivial.

Allan Bloom (1987), in his recent influential book, *Closing of the American Mind*, describes the matter as follows:

Psychology is mysteriously disappearing from the social sciences As the psychotherapist has taken his place alongside the family doctor, perhaps his education now belongs to something more akin to the medical school than to the sciences, and the research relevant for him is more directed to treatment of specific problems of patients. . . . This leaves open the question of what the solid ground is on which therapy stands, and where its newer ideas come from. *Serious academic psychology* is left with the segment that has, to all intents and purposes, fused with physiology. (p. 361; my italics)

The gradual disappearance of psychology from the social sciences is not, in fact, so mysterious. A number of factors have converged to contribute to this separation. Perhaps the most influential amongst them are the efforts of the "serious academic psychologists" to align

psychology with the biological sciences, moving away, as far as possible, from the social sciences.

This separation is particularly unfortunate for it is self-evident that psychology—that is, scientific understanding of human action—is an essential ingredient of every social science. The point has not been missed by social scientists. In economics, for example, the last few decades have seen an ever-increasing dissatisfaction with the assumption of many economic theories and models that in economic matters humans act on the basis of rational expectations. Influential economists have urged that economic theories must give due regard to psychological phenomena. Georgescu-Roegen has written, for example, as follows: “And if an economist wishes to analyze the actions of those who tilled the soil and cast the seeds, or of all those who have been hit by the scarcity produced by the crop failure, he will not arrive at a penetrating understanding if he refuses to look for the purposes that move them” (1971, p. 195). Fusfeld (1980) has noted that “. . . the assumption that human behavior is dominated by genetic factors rooted in human evolution (sociobiology) or subconscious irrationality (dynamic psychology) may be a better one than rational optimization. Better, that is, with respect to reality as perceived by twentieth-century minds in the light of contemporary experience” (p. 42, his parentheses; see also e.g., Brennan, 1979; Stanfield, 1979). Similar views have been expressed in political science, urging researchers to include in their analyses empirical knowledge of human behavior. Wahlke (1978), for example, has summed his presidential address to the American Political Science Association as follows. “Compared with either the established principles of modern biobehavioral science or the conceptions of human problems of earlier political science, political behavior research remains ‘pre-behavioral.’ To progress beyond this stage, political scientists must recognize and apply the basic knowledge about human behavior provided by the biobehavioral sciences” (p. 9). In the case of sociology,

there is a much longer tradition, as noted above, of looking to the understanding of individual action for the purpose of understanding social organization.

Unfortunately, however, the stark truth is that contemporary psychology is not, even now, equal to meeting these intellectual expectations. One reason for this is that as the separation between psychology and the social sciences proceeded, *scientific* issues and theories of psychology almost ceased to be informed by the scientific problems of the other social sciences. (The present-day social psychology, and fashionable happenings such as “community psychology” are, in Bloom’s terms, oriented to immediate remedy rather than “serious academic psychology.”) Further, a similar cessation of intellectual communication has occurred within psychology, too, with damaging consequences for the discipline.

Now, psychology has never been a closely knit discipline. In 1933, Heidebredder’s influential book, *Seven Psychologies*, described some of the separations of psychology, causing regret to those who anticipate weakness from division, and encouragement to those who see strength in diversity. Attuned to both, Heidebredder was both pessimistic and optimistic regarding the future, then, of psychology. She wrote, “to many, this lack of harmony means that the whole enterprise of psychology is one of the wasted and hopeless efforts of the human race. In some it strengthens the conviction that the attempt to make psychology a science is futile” (1933, p. 413). She also noted, however, that the existence of “schools and systems” is “among the legitimate and appropriate and practically indispensable tools by which a scientific psychology is being produced” (p. 427) and that “it is better, therefore, to keep the picture one of unfinished action, and to leave schools and systems of psychology in the very act of producing the structure that, if they are successful, will make their own existence unnecessary” (p. 429).

These last optimistic notes were sustained in psychology, though becoming

faint at times, up to 1960s. At that time, they died, leaving a deafening silence for those who would be serious scholars of the human condition.

In April 24, 1964, a significant intellectual event took place that is now rarely remembered. A symposium was presented to the American Philosophical Society entitled, "Psychology: A Behavioral Reinterpretation." It was introduced by Boring, followed by papers, in the order of presentation, by Herrnstein on "Will," Guttman on "Experience," Teitelbaum on "Appetite," Dews on "Humors," Sidman on "Anxiety," and finally, Skinner on "Man" (see Proceedings of the American Philosophical Society, 1964). The contributions emanated an air of optimism, reinterpreting the established concepts of psychology and seeking to show how the phenomena to which they refer can be rendered amenable to rigorous scientific examination. Boring (1964), perhaps the most influential psychologist of his time and decidedly not of behavioral persuasion, noted in his introduction that operant researchers were

interpreting the old concepts into the new behavioral terms with such success that it is not far wrong to say that there has emerged in psychology a new phase of the understanding of the conduct of men and animals, a new phase that is, nevertheless the natural part of the long history of the understanding of mind from Descartes on down to the present. There is still a belief in the necessity for the concept of consciousness, especially among the phenomenologists and existentialists on the Continent, as well as with many philosophers, but in America just now the *new psychology* is operant behaviorism. (1964, p. 453, my italics)

It is most reasonable to ask at this point, what went wrong? In retrospect, it is clear that while this new psychology was being presented, the old psychology was in the process of being influenced by quite different, and largely extraneous influences, and taking quite a different turn. The program that was being proposed should have been then, and is now, intellectually attractive; namely, that of "unpacking" (cf. Harzem & Miles, 1978) psychological concepts into empirically observable phenomena which, in turn, would be experimentally investigated, producing the empirical foundations on which the "new

psychology" of our times was to be built. What reason could there be for "serious academic psychologists" not welcoming such a prospect? The answer lies in the fact that the serious academic psychologists themselves were displaced, as strong social influences of the 1960s and 1970s operated upon psychology.

To analyze in detail the causes of the intellectual deferral—and not, by any means, abandonment—of the new psychology is beyond the brief of the present paper, though such an analysis would be an enlightening and possibly corrective intellectual exercise. Amongst the many factors that contributed to that turn of events, two stand out. First, a shift occurred in political and social climate, demanding immediate pay-off even from scholarly enterprise at the expense of research that might provide scientific significance without holding out any clear prospect of quick returns. As the social sciences competed to prove their immediate usefulness in that atmosphere, psychology found its niche, as Bloom (1987, see quotation above) has noted, in alignment with the family doctor, searching for modes of treatment that could be used without delay. In the ensuing quarter of a century, up to the present, the power of the market place was to give ever-increasing strength to clinical psychology, the practitioners of which came to influence the direction of most academic departments of psychology, as well as the main national organization of psychologists, the American Psychological Association. Consequently, tensions arose between academic psychology and the practice of psychology, the latter being by far the dominant through overwhelming numbers. In a recent circular Charles Kiesler, president of the newly formed splinter-group, "Assembly for Scientific and Applied Psychology," wrote as follows: "Recent data suggest that scientists are disproportionately leaving APA. At the same time, disproportionately fewer young scientists are joining. As we all know, this is not a recent problem, but it is one that is getting worse rather than better" (letter to members of COGDOP, 1987, p. 1). In these ways, in contrast to

the scientific program that was described in 1964, psychology rapidly moved away from that kind of science.

A second reason for the intellectual deferral of the “new psychology” was that by the 1960s, the method of measuring information, known as “information theory,” had attracted great attention in psychology—and rightly so (see note 1). The studies of perception and sensation had become stagnant by that time, and it appeared that information theory might provide new impetus to these areas. Perceptual data could be quantified, and therefore be studied in new ways. Unfortunately, however, it is now clear that from these promising beginnings grew “schools and systems” of the kind that Heidbredder had anticipated in her pessimistic mode. Three points may be noted about the advent of information theory into psychology and its aftermath. First, information theory removes human characteristics from the data to which it is applied, which was just as the engineers who developed the theory had, for their purpose, quite correctly intended. On this reckoning, for example, differences are eliminated between the statements “your wife died” and “your cat died.” Second, information theory does the diametrically opposite of what Boring’s new phase in psychology was to do. That is, by the use of information theory, empirically observed phenomena are converted into abstractions, whereas the *new psychology* proposed by convert abstract psychological concepts into empirically observable phenomena so as to scientifically investigate them. Third, although the assertion that present-day cognitive psychology studies mental *processes* has been made persuasive through repetition, it will not stand up to careful scrutiny. A *process* is the bringing about of a series of changes that result in an end-product. For example *processed* peas are peas that are, in a factory, shelled, steamed, salted, dyed, canned, etc. becoming, in the end, what they are: processed peas. It makes no sense, however, to wish to study the *process* without, to that end, getting to know at least the machinery of the factory and their functions.

Yet, with very few distinguished exceptions, psychologists who aspire to study information *processing* and cognitive *processes* are not informed by human physiology and anatomy. Indeed, when pressed, they claim that they are interested not in physiology, but in processes only. This is like ordering the heat but not the heater for your house, or like being interested in getting married but not in having a spouse. And it is not encouraging to those who hope to look to contemporary psychology for at least some help in facing the dangers and threats of our age. Instead, it is reminiscent of Nero’s fiddling while Rome burns.

At this point the reader may wonder at the contradiction between the optimistic title of this paper and the discouraging picture that has been painted. Whole history shows, however, that humans’ search for knowledge does not get permanently halted, although it may be held up from time to time. And there are now signs that the urgent demands of our socio-political difficulties and a new impetus that has been rising in behavior analysis are converging for us to take up, anew, the development of the “new psychology” described by Boring in 1964 (see, for example, the significant new lines of research into human behavior that are being described in the *Journal of the Experimental Analysis of Behavior*).

It is sometimes said that psychology is what psychologists do (or that, say, physics is what physicists do, etc.) But this is far from the truth. Just as in 1500 A.D., astronomy was not what astronomers did (i.e., the overwhelming majority of them adhered to Ptolemaic doctrines) but rath-

¹ As a student in the University of London in early 1960s, I recall the enthusiasm with which we listened to Donald Broadbent describing the possibilities of information theory in the psychological investigation of human communication. Cherry (1957) had recently published his investigations of human communication, and Piaget, Estes, and N. E. Miller had visited, as had Skinner. There was an air of unity of scientific purpose. We argued the merits of different approaches, learned from each other, and sought to profit from differences of approach. Now we need, in all our academic departments, that atmosphere back.

er what Copernicus did, in 1987 psychology is not what most psychologists practice. It is, instead, the intellectual enterprise, the science, that must face some of the most urgent questions of our times. These questions have to do with the development of skilled patterns of action of a previously unknown complexity, so as to match the complexity of the technologies we are creating; the elimination of international tensions; and the optimal regulation of our economies. They also have to do with eliminating crime and with ensuring that education educates, cultural diversity survives, and that the pursuit of happiness is not merely a slogan but a condition in fact provided in all of our societies.

Questions related to these matters must be formulated so as to make it possible to answer them empirically, through scientific research. The experimental analysis of behavior must now enter into every area of investigation involving human behavior, extending from social interaction, political negotiation, and economic decision making to personality and individual differences (cf. Harzem, 1984).

Those who have found scholarly direction and intellectual inspiration in the social concerns of B. F. Skinner must now bring into unity their social awareness and their "serious academic" work. They must formulate and pursue scientific questions out of the pressing human issues of our age. No one can say what the resulting new psychology will be like in its divisions, sub specialities, and theoretical directions. There now exists, however, the fundamentals of such a science of human behavior upon which there is urgent need to build. The virtues of being a psychologist lie in the building of this new science of psychology. They lie, too, in the reformation of this much maligned yet desperately needed of academic disciplines.

All this may appear overly idealistic, but for humankind, the matter is deadly serious.

POSTSCRIPT

I understand that some groups of my colleagues wish to establish new names

for what they do, such as "behaviorology," "praxics," etc., with the intention of dissociating their work from the unsatisfactory connotations of "psychology." In this article, I have dealt with questions of content, social need, and direction rather than the naming of those matters—" . . . that which we call a rose, by any other name would smell as sweet." It would seem best, however, not to abandon the rich historic traditions of psychology from which the experimental analysis of behavior has arisen. There is no wisdom in cutting off one's intellectual roots. Nevertheless, given integrity of scholarship and soundness of scientific research, there seems no call to devote time and resource to the debating of names. Let each choose their own name—so long as everyone knows what we are talking about.

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