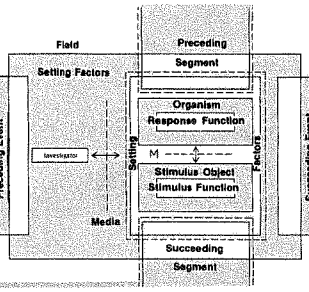
Volume 6
Number 3
Summer 1975

interbehavioral quarterly



NOEL W. SMITH, EDITOR

DEPARTMENT OF PSYCHOLOGY

STATE UNIVERSITY OF NEW YORK COLLEGE OF ARTS AND SCIENCE PLATTSBURGH, NEW YORK

It is a commonplace that psychology as one of the sciences is the study of such activities as seeing, hearing, learning, remembering, thinking, desiring, reasoning, and so on. It is also common knowledge that whenever an organism performs psychological activity, it is interacting with something under specific conditions. Normally one does not see or hear unless one sees some object or hears a sound. One does not plan unless one plans some action, some work, some project or some vacation. These things and conditions with which one interacts are conventionally called stimuli. Such stimuli are said to elicit or incite the organism's behavior. It is more accurate, however, to think of stimuli as coordinate actions which occur in a single complex event. Because all psychological events consists of just such interactions of organisms and stimlus objects we may therefore describe psychology as the study of the interbehavior of organisms with things and events. Since the interbehavior of organisms and objects consists of specific reciprocal actions called function we may describe psychology as the investigation of the interbehavior of responses and stimlus functions.

J. R. Kantor & N. W. Smith: THE SCIENCE OF PSYCHOLOGY: AN INTERBEHAVIORAL SURVEY, Principia Press, Chicago, 1975, p. 3.

The precise nature of human nature has over the ages been the target of thinkers. As a symbolic reference to an early date we may refer to the delineation by Theophrastus (370-287 B. C.) of various human traits. From the standpoint of interbehavioral psychology, the invalidity of all such attempts is owing to the organocentrism of locating essential qualities solely in the organism. Scholars sought for causes in responding organisms without regard to the events in which they participate. According to interbehavioral psychology, human nature is interbehavior and interbehavior is always a complex event that can only be described as ways organisms adjust themselves to things, whether organic or inorganic. It follows then that the capacities of organims and their performances are evolved during their contacts with stimulus objects in the various stages of their interbehavioral histories.....Human nature is experience and circumstance. The character of a person is a function of his interbehavioral history and the immediate circumstances that surround him. It is these two factors that influence his character as an idealist, pragmatist, man of honor, thief, expert, dunce, compiler, protestant, thinker, practitioner, and so on throughout all the categories of mankind.

Ibid., 492-493

THE AGORA

The revision of A SURVEY OF THE SCIENCE OF PSYCHOLOGY published in 1933 and now revised under the title THE SCIENCE OF PSYCHOLOGY: AN INTERBEHAVIORAL SURVEY is now available. A separate announcement is being included with this issue of the Quarterly.

***

William Stephenson whose views have many points in common with interbehaviorism has published "Methodology of the Single Case Studies", Journal of Operational Psychiatry, 1975, 5, 3-16. THE SCIENCE AND POLITICS OF I.Q. by Leon J. Kamin, published by Wiley, can be added to the list of those beginning to question the absoluteness of intelligence. David Layzer provides a worthwhile review of the book in Scientific American, July 1975. Layzer himself has an article on the subject in Science, 1974, 183, 1259-1266. Stephenson considers the Layzer work in his article.

***

Beginning with this issue the Quarterly is enhanced by the services of two new associate editors: Donna Cone and Ronald Heyduk. Any commentaries or contributed materials may be addressed to any of the three editors. Even with additional assistance this periodical must continue to rely on its readers for contributions. If a book or article strikes you as newsworthy positively or negatively or you wish to comment on anything on the current scene or see something quotable please let the editors know. If a student writes a paper that might be suitable it could find its place beside those of other students that have appeared in these pages.

***

The Midwestern Association of Behavior Analysts has asked us to make the following announcement:

The Midwestern Association of Behavior Analysis announces its Second Annual Convention to be held at the Blackstone Hotel in Chicago, May 1-4, 1976. MABA is an interdisciplinary group of professionals, paraprofessionals, and students who are interested in the experimental and/or applied analysis of behavior. The purpose of the convention is to provide a forum for the presentation of papers, symposia, and workships concerning all aspects of behavior analysis. Included in the program will be invited addresses, conversation hours, slide shows, and films. The First Annual MBA Convention was successful in bringing together over 1200 persons interested in behavior analysis. Attendance for the Second Annual Convention is estimated to be approximately 2000. Those persons interested in making a presentation or attending the 1976 convention should write for information to: MABA, Department of Psychology, Western Michigan University, Kalamazoo, Michigan 49008.

***

The paper by Jacqueline Farrington Kelley is the fourth to appear in the Newsletter/Quarterly. The earlier ones were 1970, 1(3), 1971, 2(5), 1972, 3(4).

COMMENT: Operationism vs. Operational Definitions

Modern psychologists seem to be always on the defensive when dealing with members of the more traditional sciences. Somewhere near the beginning of the course, students of introductory psychology are given a detailed list of the reasons why psychology is a science. If one of the fledlings possesses the temerity to ask how psychology can measure mental events, the typical answer is "We can measure anything as long as we define it operationally".

Since 1928, when the physiciist P.W. Bridgman first discussed operationism, scientists as a group and psychologists in particular have felt obligated to operationally define their terms. The difficulty of doing this has largely been forgotten although it was clearly recognized by S.S. Stevens in Chapter I of what has surely emerged as the King James version of the modern experimental psychologists' Bible, Handbook of Experimental Psychology. On page 3 of this 1951 work, Stevens makes the following observation:

"It is generally accepted that semantical rules should be in the nature of operational definitions but the problem of contriving definitions that meet the operational test of meaning is, as Bridgman showed in 1928, a serious, difficult business. It is easy enough to say 'Let x represent the ratio of responsibility to liberalism'. but it is hard to know what, if anything, we are talking about."

Certainly one of the most famous, and most ridiculous, misuses of operational definitions is: "Intelligence is whatever intelligence tests measure". The sole value of that statement is to remind the psychometrician of the limits he places on himself by the particular test he chooses.

The problems of misuse of operational definitions in psychology can be largely avoided if the psychologist derives the operationally defined terms at the proper time in the sequence of events comprising an experiment. Step 1 in the planning of a psychological experiment is crucial. The behavior which constitutes the subject of study must be psychologically meaningful, as determined by observation of the organisms involved. The study then must be designed to further elucidate natural events known to be of interest and importance and must not be designed to demonstrate the existence of some traditional concept which non-scientists have used to fill the gaps in their explanations of behavior. The writings of such early intelligence testers as Sir Francis Galton reveal that the latter was their purpose. Intelligence tests were to be used to confirm the inferiority of women and savages, indeed, all who were not of the noble class. While somewhat less chauvinistic in intent, the early intelligence tests of Ebbinghous, Binet, Terman, Wechsler and others were designed to provide a "scientific" means of classifying individuals. Too often these instruments have been used to confirm the traditional biases of special interest groups.

What then is the proper way of defining intelligence? First, it must be asked if intelligent behavior is a type of behavior one notes when observing people interacting with certain stimulus objects in certain settings. If there is something there, such as adeptness at dealing with a variety of formal problems or

quickness at learning new tasks, then controlled situations must be set up to study these phenomena. After extensive study, it may be possible to derive tests which will identify individuals who will respond in a predicatable way in a given setting. Operational definitions are to be used in setting up the conditions for study and in specifying the exact role to be played by the observer or experimenter. This constitutes good technique and guarantees that undesired fluctuations from setting to setting are kept to a minimum.

When operationism is used by the psychologist as a part of his definition of the experimental or observational set-up and of his role in it, it is being used properly. Operationism is also being used properly when it serves to remind the scientist of just how far he can validly generalize his results. Operationism is being improperly used when it makes it possible for the scientist to create events which exist only as verbalizations of individuals working in the dualistic tradition of our culture.

Operationism is also a poor servant of the scientist when it leads him to doubt the reality of the world around him. In a recent article published in the Mexican Journal of Behavior Analysis (1965, 1, 31-38), J.R. Kantor discusses how Bridgman himself practiced "the worst kind of metaphysics" (p.36). Kantor details Bridgman's move to a nihilism in which he concludes in his 1936 work, The Nature of Physical Theory: "What we mean by physical reality is to a large extent a matter of convention and convenience" (p.120). The same can be said for what psychologists have meant by intelligence.

As stated earlier, the key to the proper usage of operationism lies in the scientist's manner of planning and executing an experiment or observation. Operational (i.e., measurable) definitions of the participants and their roles must be made in order to realize good technique. But this technical skill must not be allowed to shake the scientists' basic assumption that the world, including himself, is a conglomerate of natural events subject to study by the most mundane methods.

Donna M. Cone

That existence is the single case in operation should, of course, be the primary concern of psychology and psychiatry.

William Stephenson:
"Methodology of Single Case Studies"

INTERBEHAVIORAL PSYCHOLOGY: A PROPOSAL FOR A CLEAR DIRECTION

As one whose inclinations never allow for issues relating to the history and systems of the discipline to be ignored for long, the psychologist with an interbehavioral orientation is compelled occasionally to reflect upon current trends in the conceptualization of behavior and its determinants, and especially upon the status of the interbehavioral perspective with respect to the psychological Zeitgeist. Following my recent acceptance of an associate editorship of the Quarterly, I took some time to collect my thoughts on these matters, much as I did five years earlier as I neared the end of my graduate studies. In great contrast to the optimism about the future of interbehaviorism in scientific psychology that I expressed then in the recently initiated Newsletter (Volume 1, Number 3, May 1970), my more recent conclusion is a less hopeful one, and only partly, I suspect, as a result of my loss of graduate school innocence!

It appears to me now that any inroads the interbehavioral perspective may have made in recent years are more than balanced by movements toward a more widespread acceptance of mentalistic descriptions and explanations of psychological events. In fact, a survey of current psychological media led me to conclude that mentalism, in its disguise as brain reductionism, has a wider appeal now than a few years ago as a result of the proliferation of new introductory texts and popular psychology magazines that capitalize upon the dramatic appeal of recent discoveries in physiological psychology. The common characteristic of these publications is that the brain is firmly entrenched as a surrogate for the mind, endowed with the same supernatural abilities to independently determine, initiate, and even perform acts of the whole organism. Furthermore, given the existing reductionistic bias, new discoveries of intraorganismic influences upon interbehavior are interpreted as additional "proof" that the brain is the locus of behavior determination, and thus the initial assumptions effectively direct their own strengthening in a never-end process.

As much as the interbehavioral psychologist might wish to observe and report the rampant mentalism of modern psychology with the objectivity of a scientist, it is difficult to avoid discouragement over the fact that after a full half-century of spiritualistic preconceptions muddling the research and conclusions of empirical psychologists, we are no closer to eliminating them than we were when behaviorists first offered their hopeful but finally inadequate antidote. If, then, psychologists have failed and continue to fail so miserably at basing the science of behavior on naturalistic principles, in what direction should interbehaviorists channel their energies and special competence in an effort to influence the course of events within our discipline?

Obviously, the task of influencing the psychological Zeitgeist is a formidable one, but perhaps not hopeless if we make our goals as interbehavioral psychologists clearer than we have made them previously. I

do not presume to have a unique insight into what those goals might best be, but from my perspective at a small teaching-oriented liberal arts institution, I would suggest that a more systematic consideration of the relationship between interbehavioral notions and teaching would be well worth the effort required.

My experiences with presenting interbehavioral conceptions in several introductory psychology classes and in a philosophy of psychology course, as well as my experiences as a student, have convinced me that interbehavioral psychology can be a valuable teaching tool. The interactional way of describing psychological events offers a dramatic contrast to the predominant orientations of modern psychology (e.g., behavioristic, physiological, cognitive) and thus provides students with a better understanding of the notion of a psychological system while freeing them from standard patterns of thinking about psychological issues associated with the more popular systems. Perhaps most impressively, I have noted that an appreciation of interbehavioral psychology leads to an appreciation of scientific psychology as an empirical but philosophical endeavor; that is, in understanding the interbehavioral approach it becomes clear that psychologists are pursuing answers to the same important questions about man that have always stimulated the interest of philosophers, but are doing so using the powerful tools of empirical science. Most psychological systems either entangle the student in such a web of constructs and presuppositions that the data of behavior are lost, or else stress the empirical while denying or not clarifying underlying assumptions and ignoring the meaningful questions concerning behavior that might be answered by the data. In contrast, the interbehaviorist never loses sight of the important issues concerning man's complex interbehavior in natural environments, but prizes above all else the objective approach to their resolution.

In light of the fact that the interbehavioral approach to psychology may have its greatest and most positive impact in the classroom, I propose that in succeeding issues the Quarterly provide a forum for interaction among its readers about the teaching of interbehavioral psychology or teaching psychology from an interbehavioral perspective. I urge every reader actively involved or interested in teaching to contribute something in the coming months, whether it be suggestions about teaching aids, a reading list for the student of interbehaviorism (or the instructor), a report of positive or negative teaching experiences, a discussion of a psychological issue or issues that lend themselves to an interbehavioral treatment, or an interbehavioral analysis of teaching. The Quarterly will attempt to evolve a suitable presentation format in response to the nature of the contributions made, with the hope of better serving its intended purpose as a coordinator and communicator of ideas about objective approaches to psychology (Volume 1, Number 1, January 1970).

In our efforts to be more systematic about the teaching of interbehaviorism, we should be encouraged by the fact that interbehavioral psychology had its origins in classrooms at Indiana University, just as most of us developed our enthusiasm for the approach in that setting. If it is not within our capabilities to influence the psychological Zeitgeist more directly and immediately, we should at least do our best to insure that our understanding of and excitement about interbehaviorism will be communicated to those in our classes as effectively as possible. Perhaps we can make no more important contribution to the advancement of an objective, naturalistic psychology.

Ronald G. Heyduk

Book Review

Elliott S. Valenstein: BRAIN CONTROL: A CRITICAL EXAMINATION OF BRAIN STIMULATION AND PSYCHOSURGERY. New York: Wiley, 1973

In this book Valenstein provides a critique of the notion of man as a machine controlled by his brain that appears in much of the popular literature and even some of the professional. While Valenstein does not abandon the brain doctrine he goes far toward giving it a more proper role as one factor among many.

In reviewing the studies on electrical stimulation of "pleasure centers" he notes that the animal engages in operant responding to obtain more stimulation not just when a single point or center is stimulated but from extensive areas of the brain. When humans are stimulated their reports about what they feel are rather vague. Sometimes for both males and females sexual stimulation is reported thus suggesting biological rather than psychological implications. In stimulations that attempt to obtain muscle flexion the result is single muscle contraction or mere twitches, rarely an entire limb.

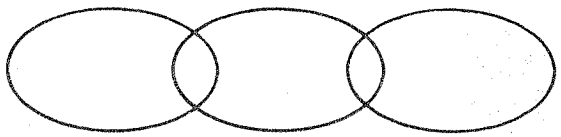
In Delgado's work in which a remote control signal to a brain electrode changed a charging bull into a docile bull the feat was accomplished by stimulation of motor responses that caused the bull to turn to one side. Other studies indicate that such stimulation disrupts brain functioning generally so that confusion ensues. These two factors Valenstein sees as responsible rather than "behavioral inhibition" contended by Delgado whose "propensity for dramatic, albeit ambiguous demonstrations has been a constant source for those whose purposes are served by exaggerting the omnipotence of stimulation" (p. 99). He also takes him to task for his declarations about the inhibitions of aggression from stimulating the caudate nucleus: "Delgado's argument that there may be a number of specific loci in the caudate nucleus cannot be dismissed out of hand, but he has presented evidence from controlled behavioral studies that his electrodes have tapped into separate centers from the inhibition of aggression, appetite, and other motivational states. Instead he seems to capitalize on every individual effect his electrodes happen to produce and presents little, if any, experimental evidence that his impression of the underlying cause is correct" (p. 103). He further observes in Delgado's work that there are no consistent responses with different animals from "a given electrode" and no "specific behavior in response to stimulation" (p. 88). The results are quite variable. "Electrodes that seem to be in the same brain locus in different animals often evoke different behavior , and electrodes located at very different brain sites may evoke the same behavior in a given animal" (p. 89). Valenstein adds that in humans personality factors are also variables.

In further considering the human side of brain stimulation Valenstein becomes almost interbehavioral: "The evidence is not completely conclusive, but it strongly suggests that the contents of the experiences evoked by stimulation are greatly determined by the personal reactions of the patients--reactions which are influenced by their past history and the present setting" (p. 106).

He reviews Penfield's studies where electrical stimulation of the cortex during surgery was supposed to have evoked memories. He finds that the memories were "very abbreviated and sketchy fragments. The more complete reports by the patients were very few in number and, because they were obtained in a surgical setting, the evidence that the patients were actually reliving a past experience could not be verified" (p. 110). Fedio & Van Buren who made similar studies did not obtain the kinds of reports given by Penrod. Further, Penfield himself noted that the same point restimulated after a short time will result in different responses. The responses also depend on the situation: "responses are influenced by the setting. Responses depend upon who is present, what has just happened, and whether it is a hospital (or laboratory) as contrasted to a life (or a field) situation" (p. 114).

Valenstein argues that animal studies of aggression and brain stimulation to produce it are hardly applicable to man. Animals kill for food, and this is more properly predation that aggression, the two being not highly correlated. The killing is usually between species rather than within species whereas warfare is within species and is usually based on complex economic and political factors rather than person to person confrontation. When brain areas that elicit aggressive behavior in animals are destroyed the aggression is not eliminated. The author brings out again and again this lack of specificity and the complex interplay of other factors. "If drug-related crimes are excluded, most of the present upsurge in violence can be related to a rejection of previously accepted values and social roles and to the existence of large groups of people who feel that they have no vested interest in the stability of the society in which they live. It may not be easy to find or to implement the changes that are necessary, but there is a great danger in accepting the delusion that biological solutions are available for these social problems" (p. 353).

The book offers a discussion on chemical stimulation, psychosurgery, and ethical and social considerations of brain alteration. All of these are given against a background of the historical factors that led up to each type of brain expe rimentation. Detailed accounts of the experiments are often given as well as extensive quotations from original sources. This is a book that reads easily. It is an important critique that can be valuable for the layman, student, and professional brain researcher or neuro-surgeon. It is often directly supportive of interbehavioral contentions.



Some Advantages of Interbehaviorism

Jacqueline Farrington

Interbehavioral psychology as conceived by J.R. Kantor appears to "get it all together" as the popular soft drink advertisement says. For the first time since the decline of Greek classicism, there is within Kantor's psychological system the possibility of studying the human as well as nonhuman organism as a complete, unified and observable reality within the context of observable situations or fields of events.

Event Basis

It is the event itself which is of prime importance in the consideration of the interactive organizing and functioning ofany organism, rather than the etiology, the course or structure of events which is the realm of the physical sciences. Kantor's system appears to be process-oriented rather than object bound. As such, it remains naturalistic, positing no special or separate entities such as mind, soul, tendency, entity, or essence which can be studied or observed apart from a physical organism. Events are specific in terms of the psychological situation, implying specific stimulus and response functions which match, and in terms of an observable field of events which includes preceding events (interbehavioral history), media of contact and environmental (including cultural) setting factors. Theassumption is made that the total field can be observed. That which is not observed in the field and which seems not capable of observation may require skills, technologies or knowledges either not available or not being utilized.

Just as the event is observed asthe interactive functioning between stimuli which perform both the functions of stimulating and responding, so the observer is, in the very process of observing, interacting with the event under observation. The observing then is not separable from the event, and is inductive in manner rather than deductive. Thisapproach eliminates the artificialities of postualted independent and/or dependent variables which can be objectively manipulated by an outside observer and considered as cause-effect variables providing construct-like explanation for real happenings. Rather, factors are assumed to be in an associative relationship; that is, one factor if isolated from its present relationship would not be capable of the same description either in isolation or in a different relationship.

While the observation of events (and the reporting?) is inductive, the bridging of gaps between sets of observed events is deductive, and hypothetically links one set to another. Such bridging does not imply a closed circular system, but rather the utilization of tentative orientation (attitude) toward unknown or partially known occurrences. Deduction here is built upon defined concepts observed within the field, the symbolic structure being derived from interbehavioral operations or acts. As such, deduction is both an abstracting and hypothesizing process rather than an absolute to be employed in inductive approaches to further event segments to be studied.

Utilizing the interbehavioral approach and understanding the assumptions underlying the approach enables the psychologist to more effectively contend with the multiplicity and the interrelationships of factors in the occurrences of such psychological events as imagining, perceiving, feeling, thinking, intercommunication, desiring, etc. Within the system of Kantor, such events need not be relegated to metaphysical entities of consciousness and unconsciousness, innate qualities of good and evil or physical connectionism and reflex action theories. Rather, events may be studied as functions of an organism whose biological structure at any given spatio-temporal moment may or may not be a factor in the psychological functioning which is observed within the context of cultural, social and physical interactive environments.

Advantages

What differences may then be noted in the practical application of the interbehavioral approach? Perhaps most important, the position proposes a distinguishing between the actions of interbehavior, the products resulting from these actions, and the things and events being observed (Kantor, 1958, p. 186). Here the knower and that known are not parties to a mystical union of entities called 'experience,' but rather, experience is the result of interaction with things and events in everyday living. Within the reporting of events, the observer, experimenter or clinician is free to identify and define "circumstances surrounding things and events before and after manipulation and description" (ibid). The observer is never separable from his surroundings.

Particularly valuable in clinical and experimental practices, this freedom of identification and description eliminates the traditional obstructing assumption that characteristics of things and events "thingevent" (Appendix, ibid) are placed in them by the various constructs mind, emotion, unconscious, etc. Inferential hypotheses may then be closely tied to actual inter-behavioral events which are more readily observable than are intellectual constructs of hidden quality, quantity, and meaning. And similarly, events need not be projected upon a specific organ or system of organs such as the brain, nervous system or glandular systems, thus ignoring the contextual field.

In the observation and application of learning, the relevance of which today occupies the forefront in educational, social and political arenas, the interbehavioral approach emphasizes the coordination of stimulus and response functioning as the core of the learning event. Additionally, setting factors and conditions of learning which are specific to the learning event do not become abstract principles. This enables the problems of individual differences and unpracticed learning to become suitable ventures for observation and for scientific rather than metaphysical study. Learning may profitably be considered as interbehavior which leads to new behavior segments or event fields. Process rather than an abstract principle of adjustment and adaptation is stressed, permitting realistic description of the relational aspects of events. Prediction and deduction then may remain close to actual events rather than to fictional constructions.

Reference

J. R. Kantor: Interbehavioral Psychology. Principia, 1968.