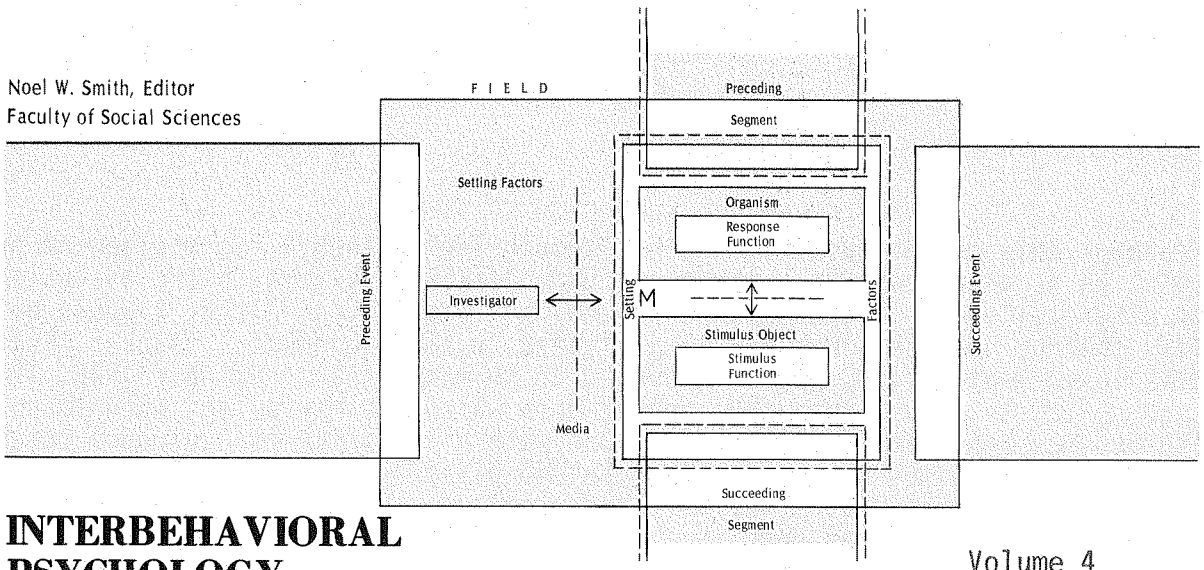
Noel W. Smith, Editor
Faculty of Social Sciences



INTERBEHAVIORAL PSYCHOLOGY NEWSLETTER

Volume 4
Number 4
Fall 1973

State University College of Arts and Science, Plattsburgh, New York

Every event in the realm of the terrestrial---the realm of things which are generated and perish---is to be understood in its relation to other events, some immediate, others in varying degrees of remoteness. ... [Aristotle] contributes to what today we call interbahavioral psychology.

Clarence Shute

THE AGORA

The above quotation appears in The Psychological Record, Summer 1973 in one of the five papers on "Contextual Interactionists: A Symposium."

***

Harry Mahan has the following mimeographed articles and cassettes. He will send the mimeographed articles gratis and the cassettes for $1 each. (1) Dewey's 1896 Reflex Arc paper (mimeo and cassette), (2) Excerpts from Dewey & Bentley's "Knowing and the Known" (mimeo and cassette), (3) Part of Kantor's paper "In defense of Stimulus-response psychology" (mimeo). He also has copies of "The Interactional Psychology of J.R. Kantor" available in quantity, gratis, and "Interactional Psychology" (two volumes) for $1 each. Write Dr. Harry Mahan, Palomar College, San Marcos, California,92069.

***

Dr. Kantor has undertaken a sojourn of 6 or 7 weeks at Lynchburg College in Lynchburg, Virginia as Distinguished Visiting Scholar. He will deliver two addresses and consult with students and staff. A weekly discussion group is also part of the program. Donna Cone who made the arragements has sabbatical leave to study with him during this time. Present reports are that students, psychology staff, and Dr. Kantor are all greatly enjoying the experience.

***

Dr. Kantor has been invited to be the Honorary Chairman at the first Mexican Congress on Behavior Analysis. It will meet April 8-10, 1974 at Xalapa, Veracruz, Mexico. His address will be "How is Interbehavioral Psychology Related to the Experimental Analysis of Behavior?"

***

The feature articles in this issue consists of a response by Paul Mountjoy to the article by Robert Martin in the Winter 1973 issue and a reply by Martin to Mountjoy.

A ROSE BY ANY OTHER NAME

Paul T. Mountjoy
Western Michigan University

A response to Martin's (1973) discussion of the applicability of operant analysis to the "complex" behavior of the human college student in the classroom is likely to appear to be an unnecessarily vigorous exercise in one-upmanship. A somewhat elaborate disclaimer is, therefore, desirable. Martin has paid his dues, done his homework. in the sense of having read those applications of operant analysis to classroom instruction which are most readily available in the psychological literature. The purpose of this response (which I hesitate to dignify with the title cribbed from the Bard) is to call the attention of this specific reading audience to recent developments in educational technology. I am fortunate to be a colleague of a number of innovative and creative teachers, and I merely report upon the exciting developments with which I am privileged to be associated at Western Michigan University.

All human intellectual activities are based upon assumptions, and Kantor (1959) has stressed the advantages of gymnological as opposed to cryptological systems. In the interests of a gymnological approach I list the following assumptions. (1) There are definite continuities between the behavior of human and non-human organisms. A corollary is that the behavioral generalities derived from the study of non-human organisms in an operant test chamber do have relevance to the understanding of the behavior of human organisms in their everyday environment. (2) Events are the ultimate criteria--not constructs. A corollary is that behaviorism is scientific psychology (Kantor, 1963) and any particular scientist will use whatever vocabulary he or she is comfortable with. At this point I must remind my audience that Skinner in 1938 (p. 35) acknowledged his debt to Kantor in a manner which he has not since duplicated, and that Kantor (1970) has indicated the potential of experimental analysis for carrying out Kantor's own program.[1] The rather convoluted point of all this is that Interbehaviorism and Operant Analysis are quite compatible, and that Skinner and Kantor respect each other as scientists, and also continue to regard themselves as friends. (3) Human behavior may appear complex, as contrasted to non-human behavior, but in actuality the continuities between human and non-human behaviors are most compelling (see number one above). The contrast between "complex" human behavior and " simple" non-human behavior is assumed to be as specious as the falsely elaborated contrast between the complexity of behavioral events and the simplicity of physical events to which Kantor (1953) long ago drew attention. (4) The learning events which occur in a college classroom may be analyzed within any number of competing behavioral frameworks. However, the thinly veiled mentalism of Rotter's (1954,1955,1960,1966) social learning theory confers no special advantage upon analysis. The renaming of reinforcement history (or interbehavioral history) as " expectancy" merely directs the interest of the psychologist away from the actual historical (and causal) events and towards inferred internal states of the organism. The scientific disadvantages of this procedure have been documented by Kantor for over 50 years.

---

1 During Dr. Kantor's illness at the time of the 1968 Americam Psychological Convention at San Francisco I was asked to read the Invited Address " Scientific Psychology and Specious Philosophy". B.F. Skinner arrived early, and despite my explanation that I was substituting for Dr. Kantor, remained to hear the paper read.

Perhaps this is the point at which I should launch into a description of my own evolution as a teacher since there are undoubtedly parallels in the evolution of many other college teachers. In the beginning I was convinced that I would be an excellent teacher because I was highly motivated to be a successful teacher. Gradually disillusionment set in, as has happened to so many others (Skinner 1948, 1968). There are obviously many alternative adjustments which one may select when teaching fails to provide requisite satisfactions. One such alternative is analogous to the varied behavior exhibited by non-human organisms placed upon extinction. I am fortunate in that during the time I was emitting trial and error teaching behavior I was able to observe and model upon the behavior of three innovative and successful teachers who remain my colleagues. These individuals are Fred Keller, Dick Mallot, and Jack Michael. All three are firmly convinced that suitable arrangements of the educational environment will result in higher levels of educational achievement for all students, but the actual arrangements which they advocate vary. For the purpose of this essay I shall emphasize the dimension upon which they exhibit most variability. Dick Mallot utilizes " pop culture" and multi-media presentations. Jack Michael relies heavily upon remedial lectures at which difficult points are explicated. Fred Keller is best known for the development of Personalized Systems of Instruction (PSI), which are student self-paced. Within these variations all three remain committed to an operant analysis of behavior. However, none of the three is committed to a formal operant analysis of teaching in the sense implied by Martin (1973). Instead, they approach teaching as a technological problem in which one manipulates variables in an attempt to achieve a practical goal of approximating 100% mastery of subject matter rather than attempting to demonstrate functional relationships between independent and dependent variables. In other words, we deal here with applied psychology rather than with science in the narrow sense of hypothesis testing. Thus any college teacher may utilize "operant" teaching technology and may at the same time give that technologywhatever label is most pleasing to him.

For the remainder of this report I shall concentrate upon PSI for a number of reasons. Among these are: PSI is used by many non-psychologists. PSI is reported upon in a large number of publications. PSI is a flexible approach which allows variations to suit the personal life style of the instructor. Fred Keller, the innovator of PSI, is a charming and urbane gentleman who has devoted his life to the improvement of college teaching; most of us can greatly improve our own instructional proficiency by applying the principles of PSI. A new campus of the University of Texas at Odessa is being founded upon the PSI approach. As presently planned, every course in every department shall be taught by the "Keller Plan" (PSI) on that campus.

The following principles characterize PSI, but obviously details have been omitted:

1. Within limits the student is in a "free operant" or"self-paced" environment. That is, the student schedules himself for examinations upon units when he is prepared to take those examinations.

2. Responses which the student is expected to perform are specified in remarkable detail by the distribution of "objectives". That is, students are instructed toread certain pages in a book and to be prepared to perform specific responses. For example, the "objective" may instruct the student to differentiate

between operant and respondent conditioning, or to describe systematic desensitization, or whatever is germane to the subjet matter of the particular course under consideration.

3. Complete mastery of each and every unit is required prior to progression on to the next unit. Some instructors set lower levels of mastery as satisfactory for their purposes.

4. Mastery is demonstrated by a combined written-oral examination. N.B., the oral portion is designed to accomplish several ends, among them the explanation of any unsatisfactory written answer and a social interaction between student and instructor.

5. Failure to demonstrate mastery of a unit is not taken as indicative of failure or stupidity, but as indicative of a need for further preparation. That is, remedial examinations are available as necessary.

6. Students are involved in the teaching process as proctors, etc.

7. Final examination determines the grade in the course.

Frequently, individuals respond to descriptions of the PSI with "mickey mouse" or even more pejorative exclamations. It seems likely that PSI is not the answer for every teacher--let alone for every student. Nevertheless, the flexibility available does appear to allow instructors and students alike to find their own path to paradise or to perdition. For example, does the instructor enjoy lecturing? Excellent. He should schedule lectures. If the instructor prefers to write out his materials and distribute them to the class, he may do so. Or, the instructor may both lecture and distribute his own written materials.[2]

Members of this reading audience who are desirous of learning more about PSI should write: Dr. John H. Hess, Junior
PSI Clearinghouse
Eastern Mennonite College
Harrisonburg, Virginia 22801

Enclosure of $1.00 will be reinforced by receipt of "PSI (Keller Plan) Bibliography". This lists 150 published and unpublished papers on the use of behavior theory in college instruction.

The PSI Newsletter is available gratis (except for back issues which must be purchased) from: Dr. J.G. Sherman, Editor
Department of Psychology
Georgetown University
Washington, D.C. 20007

---

2 I am indebted to Fred Keller for many conversations, and for allowing me to peruse certian unpublished materials. I remain, however, responsible for all errors in the description of PSI herein presented.

Two manuals (which will be found to be most useful in describing pitfalls to be avoided) may be purchased from:

College Bookstore
200 University Street
Salt Lake City, Utah 84112

Born, David G. Instructor Manual for Development of a Personalized Course. (1970) $6.25.

Born, David G. Proctor Manual (1970) $2.25

Individuals who wish to explore PSI on a smaller budget will find Lewis and Wolf's (1973) description of the application of PSI principles to Introductory Chemistry to be most illuminating.

The present author has found PSI principles to be applicable to courses whose enrollment is limited to advanced undergraduates and to graduate students as well as to lower level courses in which PSI is usually implemented. In the case of the history of psychology (where I have taught by both conventional and PSI methods) the advantage of the newer methodology is clear. The textbook has not changed, but weekly quizzes (with remediation) and written objectives have resulted in virtually all students receiving a grade of A. In my opinion the students know more about the history of psychology than they did when they were tested by the conventional hourly examinations and also wrote term papers. In all honesty I must admit that the majority of term papers were of such poor quality as to serve as extremely potent punishing stimuli and to drive me to seek a better teaching technology.

In conclusion I wish to reiterate that the events themselves are the fundamental criterion. No matter whether one prefers the terminology of PSI or some other terminology is irrelevent. The ethics of the situation are clear: The instructor must teach the best course he is able to teach to all students at all times. The conventional control group of experimental psychology is esentially unavailable both for ethical reasons and because of the practical considerations regarding the impossibility of meeting conventional design critera in higher educational situations.

I urge my readers to try out the modern teaching technology I have so briefly described. With luck your department too may be criticized by your administration for giving the grade of A to 69%[3] of those undergraduates enrolled in your department!

References

Kantor, J.R. 1953. The Logic of Modern Science. Bloomington, Indiana: Principia Press.

Kantor, J.R. 1959. Interbehavioral Psychology. Bloomington, Indiana: Principia Press.

Kantor, J.R. 1963. Behaviorism: Whose image? Psychological Record,13, 499-512.

Kantor, J.R. 1970. An analysis of the experimental analysis of behavior (TEAB) Journal of the Experimental Analysis of Behavior, 13,101-108.

---

[3] Undergraduate Grades 1966 tO 1972 at Western Michigan University. Office of Institutional Research, March 1973.

Lewis, D.K. and Wolf, W. A.1973. Implementation of self-paced learning (Keller method) in a first year course. Journal of Chemical Education, 50, 51-56.

Martin, R.F. 1973. Toward conceptualization of learning processes in the college classroom III: Operant psychology and Rotter's social learning theory as a basis for research. Interbehavioral Psychology Newsletter, 4 (1), 2-19.

Rotter, J.B. 1954. Social Learning and Clinical Psychology. Englewood Cliffs, N.J.: Prentice-Hall.

Rotter, J.B. 1955. The role of the psychological situation in determining the direction of human behavior. In M. R. Jones (Ed.) The Nebraska Symposium on Motivation, Lincolon: University of Nebraska Press. Pp. 245-269.

Rotter, J.B. 1960. Some implications of a social learning theory for the prediction of goal directed behavior from testing procedures. Psychological Review, 67, 301-316.

Rotter, J.B. 1966 Generalized expectancies for internal versus external control of reinforcement. Psychological Monographs, 80, (1, Whole No. 609).

Skinner, B.F. 1938. The Behavior of Organisms. New York: Appleton-Century-Crofts.

Skinner, B.F. 1948. Walden II. New York: Macmillan.

Skinner, B.F. 1968. The Technology of Teaching. New York: Appleton-Century-Crofts.

But There Are Roses and There Are Roses

Robert F. Martin

University of Denver

Through the Kindness of Dr. Smith I was able to read Dr.Mountjoy's reply to my paper which appeared in this journal (Martin, 1973). I found the reply to be helpful because it summarized an obscure literature on teaching. I am familiar with this literature, and, in fact, have a paper listed in Dr. Hess's Bibliography. I also found Dr. Mountjoy's report insightful for the development of a new teacher, which I am. I, too, do not wish to engage in " one-up-manship," but there are three substantive points which I wish to draw.

Even with thehighly innovative instructors practicing PSI or other classroom applications of operant technology, two bits of data appear in nearly every report: course withdrawals occur and at the rate above " regular"courses; and students still fail to meet criteria of mastery. Why were there only 69% A-grades in Dr. Mountjoy's classes? These observations suggest to me that history of reinforcement and current contingencies vary so greatly between students that some effort must be made to assess these " where it's at" for the individual student.

This need for current assessment leads, I argue, to a non-historic approach such as Rotter's (1955) social learning theory (SLT). " Expectancy," I still argue, yields potentially more for the instructor's classroom use than generally manipulated reinforcers, such as grades. People behave as if certain contingencies are operating amd these may not be the same as teacher-controlled contingencies. The literature to support this position is difficult to characterize, but consider the " non-learners' in research like Levine's (1971) work.

Finally, Mountjoy's implication that the complexity of college classroom behavior is readily subject to operant technology is contradicted by his statement that, " The conventional control group of experimental psychology is essentially unavailable both for ethical resons and because of the practical considerations regarding the impossibility of meeting conventional design criteria in higher educational situations." A point I made in my paper.

I have argued the complementarity of operant psychology and Rotter's SLT and would extend this to Kantor's (1970) approach. I am also in basic agreement with PSI and other operant applications to higher education. As an aspiring college teacher, I amy be so naive as to believe that this approach may be improved by borrowing from work such as Rotter's. The conceptual compatibility of these disparate developments of psychology has been demonstrated, I hope, in my paper.

References

Kantor, J. R. An analysis of the experimental analysis of behavior (TEAB). Journal of the Experimental Analysis of Behavior, 1970, 13, 101-108.

Levine, M. Hypothesis theory and nonlearning despite ideal S--R reinforcement contingencies. Psychological Review, 1971, 78, 130-140.

Martin, R.F. Toward conceptualization of learning processes in the college classroom III: Operant psychology and Rotter's social learning theory as a basis for research. Interbehavioral Psychology Newsletter, 1973, 4, 2-19.

Rotter, J. B. The role of the psychological situation in determining the direction of human behavior. In. M. R. Jones (Ed.), The Nebraska Symposium on Motivation, 1955. Lincoln: University of Nebraska Press, 1955. Pp. 245-269.