Subjectivity and Behaviorism: Skinner, Kantor, and Stephenson

Bryan D. Midgley, Ph.D.
McPherson College
Edward K. Morris, Ph.D.
University of Kansas

Abstract: *Since the founding of behaviorism, most behaviorists have stressed the importance of objectivity for a natural science of behavior. This does not imply, however, that they ignored or denied subjectivity. Skinner's radical behaviorism, for example, equated subjectivity with mainly events inside the skin; Kantor's interbehavioral psychology equated it with uniqueness; and Stephenson's Q methodology equated subjectivity with perspective or point of view. This paper clarifies these approaches to subjectivity and emphasizes their importance in a natural science of behavior, and places Stephenson's behaviorism within the context of the others, examining some of the similarities and differences among them.*

In 1913, John B. Watson declared that "psychology as the behaviorist views it is a purely *objective* experimental branch of natural science" (1913, 158; emphasis added). In stressing objectivity, Watson distanced his classical behaviorism from Titchener's (1898) structuralism, with its emphasis on the introspection of consciousness. From Watson on, most behaviorisms maintained a self-stated emphasis on objectivity, but this has actually been misleading. To argue that behaviorism is objective implies that it ignores or denies subjectivity, which is not necessarily the case (See Stephenson 1953b, 22-6).

The main goal of this paper is to clarify and emphasize the importance of subjectivity in a natural science of behavior. Although *Operant Subjectivity* might seem an unusual place in which to undertake this task, Q methodology has as its self-stated interest the study of subjectivity, and its main developer, William Stephenson, was, as we shall see, a "behavioral" psychologist. Toward this end, our second goal is to place Stephenson's behaviorism in the context of behaviorism more generally. Among the many varieties of

Author's address: Correspondence should be addressed to Midgley, Department of Behavioral Sciences, McPherson College, 1600 E. Euclid, P.O. Box 1402, McPherson, KS, 67460. E-mail: midgleyb@mcpherson.edu

Operant Subjectivity 2002 (April/July), 25 (3/4):127-138.

behaviorism, Skinner's radical behaviorism and Kantor's interbehavioral psychology are our focus because they are perhaps the two most naturalistic (e.g., anti-dualistic) and, thus, are compatible with Stephenson's behaviorism. Moreover, both Skinner and Stephenson emphasized the concept of the operant, as Delprato and Brown discuss elsewhere in this issue. Stephenson (1983-1984) himself felt that "the first 100 pages of *The Study of Behavior* could have been dedicated to their primary source — J. R. Kantor" (p. 14). Given these convergences between Skinner, Kantor, and Stephenson, a discussion of their conceptualizations of subjectivity might prove informative, even where we have to work through concepts and terminology drawn from outside Q methodology.

Radical Behaviorism[1]

In radical behaviorism, objectivity refers to public events and subjectivity mainly to private events (Moore 1995a), but in order to understand the private side of this public-private distinction, we begin with a description of the radical behaviorist's two fundamental units of analysis.

Units of Analysis

For the radical behaviorist, behavior is typically analyzed into two-term and three-term contingencies (Skinner 1938). The two-term contingency ($S^E \rightarrow R_r$) is the unit of respondent (or reflex) behavior; its terms are the eliciting stimulus (S^E) and the respondent response (R_r), as in, for instance, the Babinski reflex. The three-term contingency ($S^D \rightarrow R_o \rightarrow S^R$), in contrast, is the unit of operant behavior; its terms are the discriminative stimulus (S^D), the operant response (R_o), and the reinforcing consequence (S^R), for example, hearing a telephone ringing, picking up the receiver, and listening to a familiar voice on the other end.

Skinner (1953, 257-82) argued that two-term and three-term contingencies may not only be comprised of public events, but also of private events, and that private events can serve any of the five functions, that is, as eliciting stimuli and respondent responses, and as discriminative stimuli, operant responses, and reinforcing consequences (Skinner 1953, 258, 282; Zuriff 1979). Before discussing more fully the role of private events in operant contingencies, we turn briefly to private events themselves.

Private Events

Skinner distinguished between public and private events by adopting the criterion of intersubjective verifiability: Events that can be observed by at least

---

[1] The term *radical behaviorism* itself emphasizes Skinner's naturalistic or anti-dualistic approach to both public and private events. As Skinner (1974) wrote, radical behaviorism "does not insist upon truth by agreement and can therefore consider events taking place in the private world within the skin" (p. 18). This perspective distanced his behaviorism from the systems of some other behaviorists and psychologists, whom he referred to collectively as methodological behaviorists.

two people are public; events that can be observed by only one person are private (Moore 1995b, 68-9). For Skinner, this distinction corresponded to that between events respectively outside and inside the skin (Skinner 1953, 257; 1974, 24).

To appreciate how private events function in the three-term contingency, consider, first, how public events do so. Individuals acquire the ability to describe public stimuli, Skinner argued, through interactions with others, that is, with a verbal community. By definition, a verbal community has access to these public stimuli, and can therefore reinforce appropriate verbal responses by any one of its members. For example, when an adult and child can both see a blue crayon, the adult is in a position to reinforce the child's appropriate response of "blue" or "crayon" in the presence of the stimulus (Skinner 1945/1972, 373; 1953, 258-9; 1974, 26).

Private stimuli present a more difficult case because, by definition, they are accessible to only one person. Without access to private events, the verbal community seemingly has no basis for determining the accuracy of verbal responses about them and for providing reinforcement contingently on the responses. Nonetheless, individuals do learn to describe their private events with, presumably, some degree of accuracy. Skinner argued that, in some cases, this can occur because the verbal community has access to public events that often accompany private events, either more stimuli or more responses. For instance, in the case of a toothache, dentists have no direct contact with a child's pain, but they can observe a decayed tooth or relevant public responses, for instance, holding one's jaw. On the basis of these public accompaniments, the dentist may tell the child that the pain is called a "toothache." Thus, in the future, the child's toothache will be a discriminative stimulus for the "subjective" verbal response, "toothache" (Skinner 1945/1972, 373-6; 1953, 258-61; 1974, 25-8). Skinner's approach to private events is radical behaviorism's generally accepted position on subjectivity (Moore 1995a). However, there is another way in which radical behaviorism may be said to address this topic. This concerns behavioral functions, that is, "meaning" (See Moore 1995a.).

Behavioral Functions

The functions of stimuli and responses are not necessarily correlated with their structure, form, or topography. Structurally different stimulus objects can have the same function, and the same object can have different functions — both within and across people. For example, edibles and praise can both function as reinforcers, and praise itself can function as either a reinforcer or a punisher. Also, different response structures can have the same function, and the same structure can have different functions — both within and across people. For example, whistling and extending an arm can both function to hail a taxi, and whistling itself can function either to hail a taxi or to call a dog.

These functions may be said to represent the "meanings" of stimuli and responses, will often be unique to individuals, and thus constitute another way that radical behaviorism addresses subjectivity (see, e.g., Smith 1984, 480-1, for a similar analysis with respect to Kantor's interbehavioral psychology). As Skinner wrote of meaning and its individuality:

> Meaning is not properly regarded as a property either of a response or a situation but rather of the contingencies responsible for both the topography of behavior and the control exerted by stimuli. To take a primitive example, if one rat presses a lever to obtain food when hungry while another does so to obtain water when thirsty, the topographies of their behaviors may be indistinguishable, but they may be said to differ in meaning: to one rat pressing the lever "means" food; to the other it "means" water. But these are aspects of the contingencies which have brought behavior under the control of the current occasion.... (1974, 100-1)

In summary, Skinner not only acknowledged private events, but also offered an analysis of their functions and of how verbal behavior comes under their control. In addition, he discussed "meaning" in terms of behavioral functions. In both these ways, he addressed subjectivity.

Interbehavioral Psychology

In Kantor's interbehavioral psychology, or interbehaviorism, subjectivity refers to privacy, but not necessarily to private events. We begin with a description of the interbehaviorist's fundamental behavioral unit, the interbehavioral field or, more generally, the integrated field (Kantor 1946).

Unit of Analysis

In Kantor's naturalistic approach to psychology, psychological events are conceptualized as interactions between organismic responses and environmental stimuli (R $\leftrightarrow$ S). More specifically, psychological events are fields composed of six interrelated factors. Generically, these are the (a) organism, (b) response function, (c) stimulus object, (d) stimulus function, (e) setting factors, and (f) medium of contact. A seventh factor, interbehavioral history, refers to past response-stimulus interactions and therefore is not a factor in the sense of the others (on the field, see Smith 1984, 480-3; 2001b, 284-8).

As for the organism and the stimulus object, these refer, respectively, to the individual and to the object or event with which the individual is interacting. The response function and the stimulus function, in turn, correspond to the "meaning" of the individual's response and of the stimulus object or event in a given interaction (Smith 1984, 480-1). Setting factors refer to relevant biological or environmental events that influence these response-stimulus functions. And, the medium of contact refers to a sensory condition that enables the interaction. Consider, for example, an individual who, while sitting in a cold cabin, throws a newspaper in a fireplace, where the individual,

the newspaper, and the cold cabin are, respectively, the organism, the stimulus object, and the setting factors. Given the setting of a cold cabin, the stimulus function of the newspaper is fuel and, given a history of interactions between fuel and fire, the response function of throwing the newspaper on the fire is heat generation. The medium of contact, for instance, the light already being given off by the fire, allows the individual to interact effectively with the newspaper and toss it into the fireplace (See Smith 1984, 480-1).

Response and Stimulus Functions

Kantor's treatment of response functions and stimulus functions leads directly to one way in which Kantor addressed subjectivity or privacy (Smith 1983b). As noted, response functions and stimulus functions describe the meanings of responses and stimulus objects in psychological events. Consider, for example, an individual looking at a painting. As a stimulus object, the painting might function as something to admire or criticize. To understand the function of the stimulus object and of the response is to understand the privacy of the psychological event. As Kantor and Smith noted in their discussion of individual stimulus functions:

> A and B come into contact with a certain type of stone. The same object stimulates each one to perform a different kind of response. Whereas A is stimulated to pick it up and throw it, B is prompted to preserve it and add it to his collection. In the case of each person the object possesses and performs an individual and *private* kind of stimulus function. (1975, 41-2, emphasis added)

This understanding of privacy is not unlike radical behaviorism's understanding of "meaning" discussed earlier.

Psychological Privacy

A related way in which Kantor discussed privacy derives more obviously from his field approach to psychological events, which emphasized the participation of multiple factors. He argued that privacy refers to "specificity" (Kantor 1981/1984, 228) or "uniqueness of occurrence" (Kantor 1973/1984, 84). Here, because all psychological events are unique in terms of their participating field factors, all psychological events are private (Kantor 1981/1984, 230; Smith 1983a, 31; see Kantor 1963, 291-2), albeit not covert or within the skin. This is not to trivialize privacy, but rather to suggest its prevalence. How psychological events are unique is seen more clearly by examining two varieties of interbehavioral fields.

Kantor (1963, 5-6) distinguished between the basic psychological event field, discussed earlier, and the investigative event field. The former involves one individual interacting with a particular stimulus object (Fig. 1). The latter involves two individuals, the first interacting with a particular stimulus object, and the second interacting with — for instance, observing — the first organism-object field (Fig. 2). For example, the first field might describe a

research participant pressing a button in a research task, whereas the second field might describe an experimenter observing and recording the behavior of the participant.

Boundary of Psychological Event-field

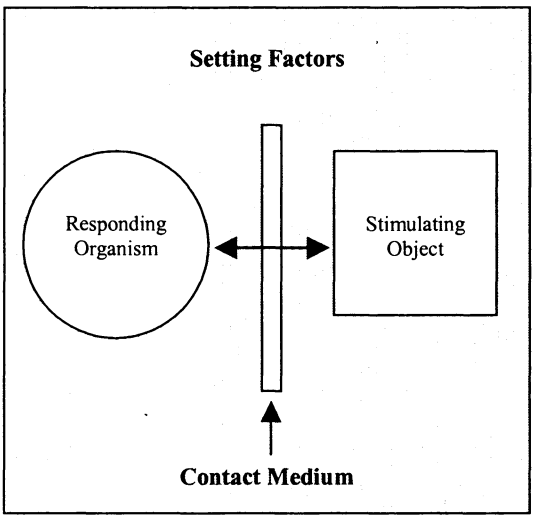

Figure 1: Kantor's psychological event field. Note. From The Scientific Evolution of Psychology *(Vol. I, p. 5), by J. R. Kantor, 1963, Chicago: Principia Press. Copyright by The Archives of the History of American Psychology. Reprinted with permission.*

The relevance of psychological and investigative event fields to the present discussion of subjectivity is that they emphasize, generally speaking, the occurrence of two *different* psychological events — (a) someone doing something and (b) someone else observing someone doing something. Because these events are different — that is, unique — they are private by Kantor's definition, regardless of the "something" the "someone" is doing. Consider, for example, someone responding "in pain" to a toothache and someone catching a Frisbee. Just as observing someone's decayed tooth or observing that someone "has" a toothache is not the same as having a toothache, so too is observing a Frisbee or observing someone catch a Frisbee not the same as catching a Frisbee (Kantor 1981/1984, 230; see Kantor 1963, 291-2). Although by Skinner's definition, the toothache is a "private" stimulus and the Frisbee is a "public" stimulus, in Kantor's perspective, the main participants and the observers are involved in different, albeit intersecting, event fields involving the stimulus objects. In recognizing these different fields, interbehaviorism acknowledges the privacy of even otherwise public events and, thus, provides another way in which Kantor addressed subjectivity.

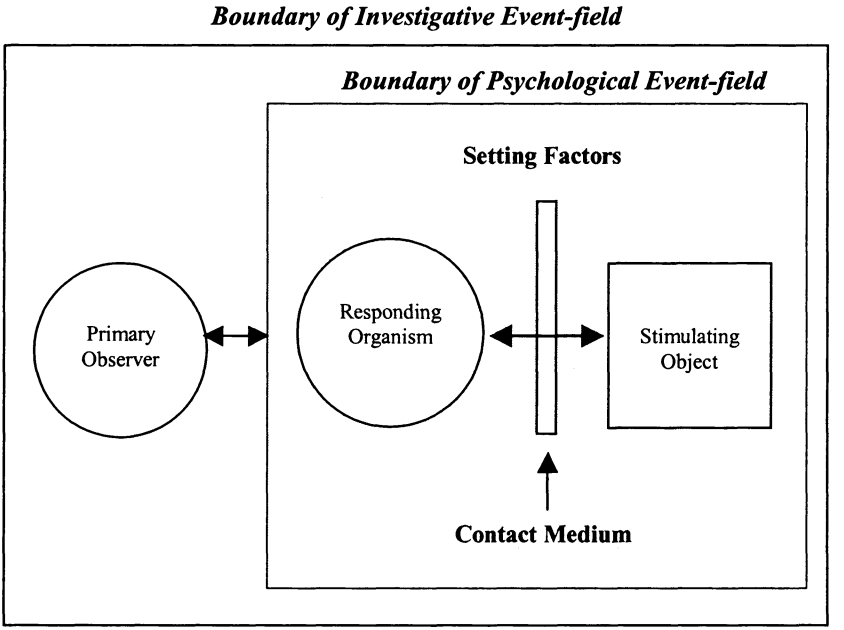

Figure 2: Kantor's investigative event field. Note. From The Scientific Evolution of Psychology *(Vol. I, p. 6), by J. R. Kantor, 1963, Chicago: Principia Press. Copyright by The Archives of the History of American Psychology. Reprinted with permission.*

In summary, Kantor addressed subjectivity in two related ways. The first appeals to the functions of responses and stimuli, which might differ both within and across individuals, and is not unlike radical behaviorism's understanding of "meaning" with its emphasis on behavioral functions. The second equates uniqueness with privacy. It argues that all psychological events are unique, that is, they constitute different interbehavioral fields. Accordingly, all psychological events are private, regardless of whether their responses or stimuli might traditionally be classified as "public" or "private" (Smith 1983a). In other words, whether privacy is addressed in the first or second way, intersubjective verifiability is not relevant because, for Kantor, privacy is not related to public unobservability.

Q Methodology

The third behaviorism to be considered is Q methodology. Although William Stephenson, the main developer of Q methodology, is not typically considered a behaviorist, he did discuss matters concerning behaviorism (Stephenson 1953a), others have regarded his work as in the behaviorist tradition (Febbraro 1995; Smith 2001b, 321; see Stephenson 1953b, 348), and he wrote favorably

of Kantor (e.g., Stephenson 1953b, 341; 1983-1984). In fact, Stephenson once noted, "I have been a Kantorian for over fifty years" (Stephenson 1986, n.p.). Unlike Skinner and Kantor, however, Stephenson offered no fundamental behavioral unit — distinct from Kantor's interbehavioral field — so we begin our discussion of Q methodology by turning directly to his perspective on subjectivity.

Subjectivity

Stephenson (1953a, 1953b, 86-100) avoided Cartesian psychophysical dualism, but at the same time argued that subjectivity had been neglected by psychology. For him, "subjectivity" referred not to hypothetical mental processes, states, or events (e.g., consciousness), but to "having" a *perspective* or *point of view* on a topic or issue (Brown 1980, 46; McKeown and Thomas 1988, 12; Stephenson 1968). One way in which Stephenson suggested that subjectivity could be addressed was via Q sorts.

As readers of this journal are aware, Q sorts are the primary means of data collection in Q methodology. When Q sorting, research participants sort or arrange a set of cards — a Q sample — into a distribution, according to a rule or condition of instruction. Typically, the Q sample contains statements of opinion on a topic or issue, with the distribution ranging from two extremes, for instance, from "most disagree" to "most agree" (Brown 1980, 5-6). When the Q sorts are completed, the experimenter has a "skeleton" of each participant's point of view (Brown 1980, 200). To understand how Q sorts might relate to radical behaviorism, we turn briefly to radical behaviorism's treatment of probes — for Q sorts are themselves the results of probes.

Consider how behavioral psychology generally conceptualizes the relation between behavior and its determinants. An individual comes into contact with an environmental stimulus and, depending on his or her history, interacts with it in one of several possible ways. On this account, the stimulus might be thought of as a *probe*: How the individual interacts with it suggests something about the current — yet historically derived — controlling variables over behavior. In addition, the probe reveals the "current state of behavior," which is otherwise incompletely known (Sidman 1960, 121; see Skinner 1953, 213-6, 245-6). Take a non-human example. An experimenter has lost track of which of two rats had been trained to press a lever in an operant chamber (i.e., "Skinner box") under different schedules of reinforcement. To solve this problem, the experimenter puts each rat in the chamber and observes its behavior — its rate and pattern of responding. Based on the rats' behavior in these "probes," the experimenter then infers which rat received training under which schedule.

As for Q methodology, it too uses probes (See Brown 1980, 54; Stephenson 1953b, 94-9), although its interest is more in revealing the current state of behavior than in identifying the "causes" of behavior, at least in the

sense that radical behaviorism identifies "causes" (e.g., Skinner 1953, 31-9). At the risk of oversimplification, Q samples and the experimenter's conditions of instruction are like the operant chamber probes, and the Q sorts are like the response patterns to these probes. Q samples and conditions of instruction reveal characteristics of the current state of behavior, as seen in Q sorts, which would otherwise go unobserved. Q samples are particularly useful as probes when they are composed of somewhat ambiguous stimuli, for instance, statements that can be "read" in different ways. As such, they are like the stimulus materials used in projective tests, such as the Rorschach and the Thematic Apperception Test, and Skinner's (1936) verbal summator, which implicate an individual's unique behavioral history (see Brown 1980, 190; Kantor and Smith 1975, 147; Keller and Schoenfeld 1950, 394-5; Skinner 1953, 215).

Returning to subjectivity, consider an experimenter's attempt to interpret a Q sort, that is, to discern a pattern among the placement of Q-sample cards. Ideally, an interpretation should be consistent with the Q sort itself and with what the participant might have said about it, although "this is not to say we must necessarily believe a person's Q sort" (Brown 1980, 44). Casually speaking, the Q sort reflects a perspective or point of view that the participant "has" — in the same way that a person might be said to "have" a concept (e.g., of a "horse"; Keller and Schoenfeld 1950, 154-5). Ultimately, though, the perspective, like the concept, refers to "pure behavior"; nothing mentalistic is implied (Brown 1980, 46; see Keller and Schoenfeld 1950, 154). Typically, of course, Q methodologists are interested in interpreting not Q sorts, but factors (i.e., factor arrays), which are like Q sorts and are derived from them.

With factors and factor interpretation, Stephenson, like Skinner and Kantor, addressed subjectivity, a point we here extend based on Kantor's (1959) distinction between events and constructs (see Smith 2001a).

Events and Constructs

Kantor argued that scientists must be careful to distinguish between events and constructs. The former refer to "anything that happens which may or may not become known or studied" (Kantor 1959, 258). The latter, in contrast, refer to:

> products derived from interbehaving with events.... [These include] words of description, records of measurements or manipulations, mathematical or symbological equations, or formulae in all of their various forms.... The range of constructs is very wide, and often constructs are acts themselves.... In general, the term "construct" may be applied to acts as well as [to] products of action. But constructs in any form or style are not to be confounded with the events or stimulus objects in connection with which they are engendered. (Kantor 1959, 259)

In other words, events refer to the natural world (e.g., interactions between individuals and the environment), whereas constructs refer to what scientists

write, say, record, and otherwise do with respect to the natural world (e.g., descriptions, equations).

Among the events of Q methodology is Q sorting (Brown in press; Smith 2001a). This is what participants do; they sort the cards of a Q sample along a distribution according to a condition of instruction. Among the constructs of Q methodology are factors. These are descriptions of the participants' behavior or, more accurately, of the products of their behavior. Brown (in press) describes factors, though, as "functional" and "naturally occurring" — terms that seem more descriptive of events than of constructs. This paradox, however, is only apparent. Indeed, it emphasizes another distinction that Kantor made — this one between two varieties of constructs — derived and imposed.

Kantor argued, "On the whole, constructions *derived from* events are likely to be legitimate, whereas those *imposed upon* events will only by the merest chance be anything but illegitimate and useless" (1947, 121, emphasis added). Derived constructs are derived from events and describe their characteristics. Imposed constructs, in contrast, are derived from sources other than the events of interest and are imposed on them (e.g., computer models of remembering).

Derived and imposed constructs are pertinent in the present context because they put into interbehavioral perspective something well appreciated in Q methodology (S. R. Brown 1993, 97; personal communication, April 24, 26, 1998). Brown notes, factors "represent functional as opposed to merely logical distinctions" (1993, 97). An interbehaviorist could exchange Brown's functional and logical distinctions with Kantor's derived and imposed constructs and not alter the meaning of Brown's passage. Thus, to return to our earlier concern, when Brown argues that factors are "functional" and "naturally occurring," he is emphasizing that they are constructs ultimately derived from, not imposed on, the events, that is, the behavior of participants. This is consistent with Kantor's interbehaviorism (Smith 2001a) and demonstrates, once again, how Q methodology addresses subjectivity.

Conclusion

In general, behaviorism — at least the three varieties reviewed here — does not ignore or deny subjectivity. Indeed, if behaviorism in some form is taken as equivalent to a natural science of behavior (e.g., Kantor 1963, 161), then subjectivity is of fundamental importance to that science. Among the three varieties of behaviorism reviewed here, Skinner's mainly conceptualizes subjectivity in terms of private events and, thus, intersubjective verifiability. In contrast, Kantor's and Stephenson's behaviorisms, and Skinner's elsewhere, conceptualize subjectivity as function or "meaning," uniqueness, and point of view. Stephenson's behaviorism, though, goes one step further by offering a unique way — Q methodology — of developing constructs derived from events, the events of behavior (Brown in press).

References

Brown, S.R. 1980. *Political subjectivity: Applications of Q methodology in political science.* New Haven: Yale University Press.

———. 1993. A primer on Q methodology. *Operant Subjectivity* 16:91-138.

———. (in press). Q methodology and naturalistic subjectivity. In B. D. Midgley and E. K. Morris (Eds.), *Modern perspectives on J. R. Kantor and interbehaviorism.* Westport, CT: Greenwood Press.

Febbraro, A.R. 1995. On the epistemology, metatheory, and ideology of Q methodology: A critical analysis. In I. Lubek, R. van Hezewijk, G. Pheterson, and C. W. Tolman (Eds.), *Trends and issues in theoretical psychology* (pp. 144-50). New York: Springer Publishing Group.

Kantor, J.R. 1946. The aim and progress of psychology. *American Scientist* 34:251-63.

———. 1947. *Problems of physiological psychology.* Chicago: Principia Press.

———. 1959. *Interbehavioral psychology: A sample of scientific system construction* (2nd ed.). Chicago: Principia Press.

———. 1963. *The scientific evolution of psychology* (Vol. I). Chicago: Principia Press.

———. 1984. Private data, raw feels, inner experience, and all that. In J. R. Kantor, *Psychological comments and queries* (pp. 83-5). Chicago: Principia Press. (Original work published 1973)

———. 1984. Concerning the principle of psychological privacy. In J. R. Kantor, *Psychological comments and queries* (pp. 227-32). Chicago: Principia Press. (Original work published 1981)

——— and Smith, N.W. 1975. *The science of psychology: An interbehavioral survey.* Chicago: Principia Press.

Keller, F.S., and Schoenfeld, W.N. 1950. *Principles of psychology.* New York: Appleton-Century-Crofts.

McKeown, B., and Thomas, D. 1988. *Q methodology.* Sage University Paper series on Quantitative Applications in the Social Sciences, 07-066. Beverly Hills: Sage.

Midgley, B.D., and Morris, E.K. May 2001. Subjectivity and the behaviorisms of Skinner and Kantor. In J. T. Todd (Chair), Behaviorism: Skinner, Watson, Kantor and others. Paper session conducted at the meeting of the Association for Behavior Analysis, New Orleans, LA.

Moore, J. 1995a. Radical behaviorism and the subjective-objective distinction. *The Behavior Analyst* 18:33-49.

———. 1995b. Some historical and conceptual relations among logical positivism, behaviorism, and cognitive psychology. In J. T. Todd & E. K. Morris (Eds.), *Modern perspectives on B. F. Skinner and contemporary behaviorism* (pp. 51-74). Westport, CT: Greenwood Press.

Sidman, M. 1960. *Tactics of scientific research: Evaluating experimental data in psychology.* New York: Basic Books.

Skinner, B.F. 1936. The verbal summator and a method for the study of latent speech. *The Journal of Psychology* 2:71-107.

Skinner, B.F. 1938. *The behavior of organisms: An experimental analysis.* New York: Appleton-Century-Crofts.

———. 1953. *Science and human behavior.* New York: Free Press.

———. 1972. The operational analysis of psychological terms. In B. F. Skinner, *Cumulative record: A selection of papers* (3rd ed., pp. 370-84). New York: Appleton-Century-Crofts. (Original work published 1945.)

———. 1974. *About behaviorism.* New York: Vintage Books.

Smith, N.W. 1983a. The imperative for revolutionary alternatives to recurring problems in psychology. In N. W. Smith, P. T. Mountjoy, and D. H. Ruben (Eds.), *Reassessment in psychology: The interbehavioral alternative* (pp. 21-50). Lanham, MD: University Press of America.

———. 1983b. Sensing is perceiving: An alternative to the doctrine of the double world. In N. W. Smith, P. T. Mountjoy, and D. H. Ruben (Eds.), *Reassessment in psychology: The interbehavioral alternative* (pp. 161-211). Lanham, MD: University Press of America.

———. 1984. Fundamentals of interbehavioral psychology. *The Psychological Record* 34:479-94.

———. 2001a. Centrisms, noncentrisms, and universal Q. *Operant Subjectivity* 24:52-67.

———. 2001b. *Current systems in psychology: History, theory, research, and applications.* Belmont, CA: Wadsworth.

Stephenson, W. 1953a. Postulates of behaviorism. *Philosophy of Science* 20:110-20.

———. 1953b. *The study of behavior: Q-technique and its methodology.* Chicago: University of Chicago Press.

———. 1968. Perspectives in psychology: XXVI. Consciousness out—subjectivity in. *The Psychological Record* 18:499-501.

———. 1983-4. [Memorial commentary on J. R. Kantor.] *The Interbehaviorist* 12(3):14.

———. 1986. An objective psychology for subjectivity: Interbehaviorism in a subjective framework. Unpublished manuscript, Stephenson Research Center, University of Missouri, Columbia.

Titchener, E.B. 1898. The postulates of a structural psychology. *Philosophical Review* 7:449-65.

Watson, J.B. 1913. Psychology as the behaviorist views it. *Psychological Review* 20:158-77.

Zuriff, G.E. 1979. Ten inner causes. *Behaviorism* 7:1-8.

Authors' Note

This paper is based on a dissertation submitted by the first author in partial fulfillment of the requirements for the Degree of Doctor of Philosophy, as well as on a paper presented at a meeting of the Association for Behavior Analysis (Midgley and Morris 2001, May). We thank Donald M. Baer, Dennis J. Delprato, and Marc Wruble for discussions about some of the points addressed in this paper, and Wruble for some of the examples used in it. We also thank Steven R. Brown, Dennis Delprato, and Robert M. Lipgar for their comments on earlier versions of this paper.