A Metaphorical Analysis of Skinner’s Verbal Behavior

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In “Whatever Happened to Psychology as the Science of Behavior?” B. F. Skinner (1987) has shown himself once again to be a very capable advocate of the radical behaviorist position. My concern here is not with the overall merits of this position, which others will continue to debate, but with an inaccurate assumption underlying Skinner’s polemic. I am speaking about Skinner’s implication that humanistic, psychotherapeutic, and cognitive modes of psychological analysis depend upon the use of metaphor (which is true) whereas behavioral approaches do not (which is false). To state his strongly implied argument in his own terminology, Skinner claims that internal states (such as those to which humanists, psychotherapists, and cognitivists refer) cannot be “unambiguously identified” whereas external events (such as those analyzed by behaviorists) can. For the sake of brevity, I shall simply present my own contrary view.

All human knowledge is the product of measuring one experience against another. That is, it is the product of what can be called “comparative thinking” or what is more commonly and broadly conceived as metaphorical thinking. The simplest illustration of this point, expressed in Skinnerian terms, is “dictionary behavior”. When someone wishes to know the meaning of a word, he or she can open a dictionary and read a definition in which the word is explicated in relation to other words, words that have like meaning and yet are hopefully more familiar to the reader. If they are not more familiar, the reader can then turn to their definitions, and so on, until he or she locates some ground of understanding—some comparative standard of meaning. This ground or standard is never absolute; it is always relative to the person’s prior experience. Yet generally it suffices quite nicely.

In other words, the objects of knowledge are never “unambiguously identified”. Knowledge is always established in relation to some other experience, often but not always verbal in nature. Although I cannot hope to convince Skinner or anyone else by the mere assertion of this claim, the monumental failure of logical positivists and others to establish procedures and criteria for the unambiguous definition of meaning should lend considerable credence to this proposition. (See Brown, 1977, ch. 3, for a clear review of this failure as regards theoretical terms, and Quine, 1951/53, for the fundamental arguments underlying his later demonstrations of the “inscrutability of reference” and “ontological relativism” of observational terms, including even the terms of ontic definition.)

On this ground, it should not be surprising that our psychological vocabulary for internal states has in fact been drawn etymologically from vocabulary used initially in the description or labelling of other, more readily experienced events. Even the term psyche, which originally referred to breath, reveals the traces of this history. Skinner is certainly correct in his claim to this effect. However, he might also have noted that the term physis, from which we now take our talk of “physical” things, originally referred to the inner, dynamic, living force of all things. Or that the notions of causality and force were drawn by metaphorical inference from the arena of human law and human experience in which the analog-concepts of responsibility, agency, and effort were first developed. This conceptual ancestry no more invalidates current uses of the concepts of “physical reality”, “physical causality”, and “physical force” in contemporary physics than does the ancestry of humanistic, psychotherapeutic, and cognitive terms invalidate their use in contemporary psychology. In addition, the fact that some of our psychological terms refer to states and events occurring inside our skin invalidates their use no more than the reference of such terms as atoms, electrons, and positrons to states and events occurring inside a solid oak desk (to use Skinner’s own example, from page 783) invalidates their use in physics.

Skinner is well aware of the metaphoricity of verbal behavior and the relational character of concepts and terms. He has shown as much sensitivity to the nature and uses of metaphor as any other psychologist who does not specialize in the topic (see, e.g., Skinner, 1945; 1954; 1957, chs. 5 & 18; 1974, ch. 6). Furthermore, having spent much of his career trying to define (if not legislate) the meanings of “stimulus” and “response”, he ought to be well apprised of the ambiguous nature of these concepts. But his explicit exclusion of behaviorist psychology from the arena of metaphorical thinking and his implicit commendation of behaviorist psychology for its alleged avoidance of “ambiguous identifications” set the limits of his own consistency. John B. Watson (1919) long ago admitted that “in psychology we extend somewhat the usage” of “stimulus” and “response” (p. 10), and a comprehensive survey of major behavioral psychologists in the late 1950s did little to show that behaviorists had become unanimous, much less unambiguous, in their definition of “stimulus” and “response” (see Koch, 1959). And there is little to suggest that the situation has been rectified since that time.

Has Skinner’s brand of psychology in fact avoided the sort of metaphorical and “ambiguous” thinking that he criticizes in the case of non-behaviorist psychology? As he himself (1987) notes,

Following the lead of evolutionary theory, an operant analysis replaces creation with variation and selection. There is no longer any need for a creative mind or plan, or for purpose or goal direction. Just as we say that species-specific behavior did not evolve in order that a species could adapt to the environment but rather evolved when it adapted, so we say that operant behavior is not strengthened by
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reinforcement in order that the individual can adjust to the environment but is strengthened when the individual adjusts (where 'adapt' and 'adjust' mean 'behave efficiently with respect to'). (p. 783)

It is readily apparent that the conceptual scheme proposed here—which, as Skinner himself suggests, is fundamental to his entire psychological theory—is metaphorical. It posits a similarity between the learning of an individual and the evolutionary adaptation of a species, that is, between ontogeny and phylogeny. According to Skinner, the actions of the individual organism vary and are selected according to their consequences, just as members of a species vary and are selected according to the utility of their individual characteristics. This has proven to be an insightful and fruitful metaphor. However, it is important to notice that there is no "unambiguous identification" between individual learning and phylogenetic adaptation. There are significant dissimilarities as well as similarities between the "evolution" of an individual organism's behavioral repertoire over a single lifetime and the "evolution" of a species over many lifetimes. Either "event"—ontogeny or phylogeny—could be used to help "define" the other, but only with considerable "fuzziness". This fuzziness must always be kept in mind, and attempts to delineate the specific similarities and dissimilarities between ontogeny and phylogeny must be made if this fruitful mode of metaphorical thinking is to increase our understanding of behavioral phenomena without simultaneously encouraging reductionistic and simplistic thinking about the "ultimate nature" of these phenomena. Otherwise, focusing on the points of analogy without due attention to the points of disanalogy will reduce the probability of gaining insight through a re-cognition of the phenomena at hand.

These comments deliver no deathblow to Skinner's overall position, except in its most dogmatic form. To see Skinner's "evolutionary" approach to ontogenetic learning as metaphorical is not necessarily to see it as vacuous. (On the general importance and fruitfulness of metaphors in psychology, see Leary, 1987, forthcoming; with particular reference to the metaphors utilized by Skinner and other major behaviorists, see Smith, forthcoming.) Actual similarities, after all, are quite real and worthy of scrutiny. If the processes of individual learning are significantly like the processes of evolution, it may prove helpful to spell out these similarities. Whether the similarities noted by Skinner are to yield more compelling insights and practical advantages than the metaphors of humanists, psychotherapists, and cognitivists is something that history will reveal. Certainly other behaviorists, even of the Skinnerian persuasion, have found it useful to try out an overlay of alternative metaphors. (See, e.g., Baum, 1981, 1982, on the use of economic and ecological concepts, and Nevin, in press-a, in press-b, on the use of Newtonian and signal-detection concepts, respectively.)

As noted above, Skinner has shown remarkable sensitivity to the nature and function of metaphor. One only hopes that this sensitivity can be extended to the metaphorical analysis of his own verbal behavior.

NOTES

1. Numbers, not words, provide the most abstract and for some purposes the most useful standard for "sizing up" experience, whereas feelings, the most concrete and personal aspects of experience, are often the standards of choice for coming to grips with other dimensions of experience.

2. On the other hand, the fate of "reality", "causality", and "force" in contemporary physics should remind each of us—humanist, psychotherapist, cognitivist, and behaviorist alike—that we ought not be smug about the necessity and sufficiency of any of our assumptions and terms.

3. In anticipation of Skinner's probable reply that the effects of inferred subatomic particles can be seen in a cloud chamber, I would simply point out that the effects of inferred selves, thoughts, and feelings can also be seen in the behavior of organisms. Humanists, psychotherapists, and cognitivists are no different from physicists in this regard: they make inferences about the realities underlying the phenomena they study—inferences that they judge to be more or less adequate depending upon how well they fit within a network of other inferences and observations. For that matter, humanists, psychotherapists, and cognitivists are not so different from Skinner himself, whose own behavioral interpretations often rely upon assumptions regarding inner causes (see Zuriff, 1979).

4. Behaviorists and others have enjoyed pointing this out in their criticisms of Sigmund Freud's version of the "ontogeny recapitulates phylogeny" scheme.

REFERENCES


