

MIXING METAPHORS: Skinner, Chomsky, and the Analysis of Verbal Events

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ABSTRACT: Moerk's analysis of the similarities between Skinner's and Chomsky's position fails to deal adequately with the major philosophical differences between cognitive and behavior analytic accounts. In so doing, the degree of overlap is greatly exaggerated. In addition, Moerk's formulation of language as an acquired skill, while congenial to a behavioral approach, fails to grapple with the nature of verbal phenomena.

The central idea in Moerk's review is that Chomsky's system adds topographical meat to the bare bones of Skinner's functionalism. To make this idea credible he has to argue that the two approaches are not as incompatible as they seem. In general, however, Moerk's argument ignores philosophy and views similarities in topic as similarities in analysis. He thereby misses important differences and emphasizes trivial commonalities. Moreover, his specific concerns with Skinner's analysis are misplaced -- the real problems lie elsewhere.

PHILOSOPHICAL INCOHERENCE

Most philosophers of science agree that incoherence results from the unthinking combination of different philosophies (e.g., Kantor, 1953; Kuhn, 1962; Pepper, 1942). Simultaneously embracing contradictory assumptions and postulates provides no guidance for systematic thought.

We have recently argued that S. C. Pepper's (1942) system helps make sense of the primary philosophical distinctions within psychology (Hayes, Hayes, & Reese, 1988). Pepper argued that there were four classes of relatively adequate world views: Formism (e.g., Plato), Organicism (e.g., Hegel), Mechanism (e.g., S-R learning theory) and Contextualism (e.g., James). Pepper's idea was that humans philosophize on the basis of certain key common-sense models that are then applied to the world. He called these models "root metaphors." The root metaphor of formism is simple similarity; that of organicism is the developing organic whole; that of mechanism is the machine; and that of contextualism is the on-going historical act. The core assumptions and most especially the truth criteria of these positions differ radically. Anticipating T. S. Kuhn's (1962) point made with regard to "para-

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digms," Pepper argued that these differences were so great that meaningful discourse among world views was impossible.

COGNITIVE AND BEHAVIORAL PHILOSOPHY

Moerk's title suggests that he will focus on Chomsky and Skinner, but much of the argument is cast in terms of cognitive and behavioral perspectives. It is impossible to examine the philosophical distinctions between cognitive psychology and behavior analysis in the abstract, because neither term refers to a single thing. Moerk lumps together theorists as philosophically disparate as Gibson, Vygotsky, Anderson, Meichenbaum, and Chomsky.

Chomsky seems to us to be a formist of the Platonic variety. Chomsky has written extensively and positively on Plato (e.g., Chomsky, 1986), and thus the similarity does not appear to be accidental. Viewed as a formist, Chomsky is attempting to detect the true forms that are repeated in the world and to explain particular language events and their characteristics as instances of these forms. Like all Platonic formists, he takes these underlying forms to be real -- not merely useful abstractions. His central concept of a "Language Acquisition Device" (LAD) or "language organ," located in what he calls the "mind/brain," plays the same role as Plato's idealized forms: They are the source of similarity itself. His truth criterion is that of correspondence: He argues that the LAD and other central concepts are true because these forms correspond to real world events.

Skinner's philosophical position is somewhat unclear but we have argued that he was an intuitive contextualist who used mechanistic approaches when it served his pragmatic purposes to do so (Hayes et al., 1988). Viewed as a contextualist, what most stands out is his adoption of a pragmatic truth criterion. Again and again (see Hayes et al., 1988 for several examples) Skinner appealed to utility in defending his central concepts. In addition, in the hands of some behavior analysts (e.g., Morris, 1988) the analytic units of behavior analysis are totally interactive, in keeping with the contextualist's "act-in-context" root metaphor.

Moerk is thus literally suggesting that we mix metaphors. Mixed scientific metaphors are undesirable because specific terms will either lose contact with the underlying set of assumptions or fail to cohere one with the other. A random amalgam of assumptions cannot serve as an effective cognitive guide.

Moerk largely ignores this level of analysis and argues that the differences between Chomsky and Skinner are small. As evidence for this, Moerk describes how Skinner, like Chomsky, appeals to biology and Chomsky, like Skinner, appeals to history to explicate their concepts. The observation seems trivial. No comprehensive psychology ignores either structure or history and one that did would immediately be rejected as too narrow on that ground alone. The issue is not *whether* these views appeal to structure or history, but how and why they do so.

MIXING METAPHORS

In Chomsky's hands, grammar itself is *in* the genotype. Structure *explains* function, just as idealized forms explain particular instances. In Skinner's hands, we inherit certain structures and behavioral sensitivities. Structure is merely part of the context for function. Skinner's position is inherently epigenetic; Chomsky's is not.

As another line of evidence for convergence, Moerk points to the pragmatic turn in cognitive psychology. There is a distinction, however, between pragmatism in a philosophical sense, and an empirical interest in function. The former is philosophically substantive and could lead to a genuine realignment. The latter does not imply any fundamental change, because function can be approached mechanistically, formistically, and so on.

A similar point applies to trends within behavior analysis. A glance at recent issues of the *Journal of the Experimental Analysis of Behavior* shows that basic behavior analysis is becoming more interested in human behavior in its own right, and in phenomena that traditionally might be called cognitive, such as derived stimulus relations. An interest in cognition, however, is not the same as a cognitive approach.

In summary, Moerk's perceived similarities seem insignificant. They do not provide a basis for the homogenization of Skinner's and Chomsky's analyses. Conversely, the philosophical distinctions between them, not dealt with by Moerk, seem fundamental.

SKINNER'S DEFICIT AND SKILL ACQUISITION

Much of Moerk's paper is devoted to an examination of the relation between language acquisition and skill acquisition. For a behaviorist, the comparison is apt and little can be said critically of the general approach. Moerk's six generalizations, however, side-step the most crucial issue. If language is a skill, what kind of skill is it?

Moerk misses this point by focusing on the pseudoproblem of topographical variation, as if the key issue is not the kind of act involved but its inexplicable form. For Moerk the concept of operant classes cannot account for the form and structure of the utterance. For this reason, he says, all behavioral models appeal to modeling and imitation, even though they are "principles foreign both to classical and instrumental conditioning" (Moerk, p. 17).

Within Skinner's account, while verbal topographies are instances of verbal response classes, the particular form of a given instance is multiply determined. Since language is conventional, Skinner assumes that much of language learning is via imitation. Imitation itself can largely be viewed as an operant class (e.g., Gewirtz & Stingle, 1968). Accounting for topography is not the problem in Skinner's account.

HAYES & HAYES

The most fundamental problem with Skinner's view of verbal events is his *definition* of them, and his resultant failure to see what is psychologically new in language (Hayes & Hayes, 1989). Moerk does not mention the recent behavior analytic work on stimulus equivalence and other relational phenomena, even though they represent the kind of fundamental action missing from Skinner's account. The definitions of verbal relations that flow readily from the equivalence phenomenon (e.g., Hayes & Hayes, 1989) look rather like network-based cognitive theories (Reese, 1991). In cognitivists' hands, however, semantic networks are mental structures. In behaviorists' hands, they are learned patterns of the transformation of stimulus functions. As cognitivists' and behaviorists' interests converge, their philosophical differences make the meaning of even similar concepts diverge.

SUMMARY

Moerk has provided the wrong solution to the wrong problem. A thoroughgoing functional approach can encompass structural events, but only if the *nature* of the functions involved are understood. Adding Chomsky to Skinner will only lead to theoretical and philosophical incoherence. A better alternative is to develop a more adequate functional account.

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