Behavior Analysis and S. C. Pepper's Other Mechanism

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Morris (1993) argues that behavior analysis is not mechanistic. He bases a significant portion of his case on Pepper's (1942) logico-analytic derivation of mechanism as a "world hypothesis." (All references to Pepper below are to his 1942 book.) My examination of Pepper's "other" mechanism leads me to propose that behavior analysis is not as nonmechanistic as Morris suggests.

Morris fails to recognize what Pepper (p. 187) refers to as a polarity between a discrete and a consolidated mechanism. The infamous lever is the root metaphor for the former, but the latter is based on the electromagnetic field. Pepper notes that by his day, mechanists shifted to consolidated mechanism that "is not a dream, but is the most plausible theory of the nature of the world so far as physical evidence goes" (p. 214).

According to Pepper, one of the most important issues in consolidated mechanism is the connection between primary categories (or qualities) and secondary categories (or qualities). Pepper very much displays the influence on his thinking of venerable mental-physical dualism here. To translate into nondualistic behavior-analytic and naturalistic categories, the former are the physical, biological, and topographic structures, descriptions, and relations that provide behavior analysts with their first-line, raw data. The primary qualities are not psychological. Discrete mechanism, the only version of Pepper's mechanism that Morris (1993) acknowledges, deals especially with the primary qualities in that materialistic mechanists ignore or deny any categories but these. However, discrete mechanists who are subjective ide-

alists ignore or deny the primary qualities in favor of secondary qualities. Secondary categories "comprise all the irreducible characters of the world which are not identifiable with the primary categories" (p. 215). In his dualistic fashion, Pepper here is referring to percepts, understanding the connections between percepts and the primary categories, and possible regularities among percepts. In actuality, of course, secondary categories can refer only to those nonphysical and nonbiological aspects of events and relations that are the abstractions especially dealt with by psychologists.

Given the distinction between physical and biological events and constructs (primary categories) and psychological ones (secondary categories), the consolidated mechanist seeks to connect the two. Pepper notes that mechanists attending to this problem frequently use the term *emergence* to refer to the central issue. According to Pepper, earlier mechanists have tried identity theories (secondary qualities are nothing but primary qualities) and causal theories (primary qualities, e.g., brain events or muscle movements, cause secondary qualities, e.g., seeing or receiving social recognition). Pepper finds that modern mechanists take a correlational view of emergence. What this means is that "upon the occurrence of certain configurations of matter certain qualities appear which are not reducible to the characters of matter or the characters of the configurations" (pp. 216-217).

If mechanistic psychologists relate the psychological (secondary qualities) to the nonpsychological (primary qualities) in the manner described by Pepper, then behavior analysis is very much mechanistic. Pepper's account of the correlational approach to what he calls the emergence of secondary qualities out of primary qualities gets at the heart of several major Skinnerian concepts, includ-

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ing the connection between response instances and response classes in the definition of the operant, the definition of psychological behavior, purpose, functional analysis, and nonreductionistic claims. Consider the distinction and connection between response instances and response classes. In Pepper's framework, the former are primary categories; they are located in space-time and thereby are real. Response instances are particular, specific occurrences (in space-time), specifiable topographically or structurally (e.g., "The bird activated the relay connected to right key with a short thrust of the head with the beak open and a peak force of 0.21 N at 2:33:04 p.m. on January 23, 1992; it activated the relay connected to same key with a long pushing motion with the beak closed and a peak force of 0.12 N at 2:33:45 p.m. on the same day"). Instances *per se* are of no interest to the psychologist. The first level of analysis that yields behavior in this preparation requires the concept of a response class, such as "key pecking." Key pecking, described as that set of response instances with a particular impact on the environment (such as activating a relay), transcends particular, specific occurrences and topographies of response. The abstract behavioral event "key pecking" is not identical to response instances, is not caused by either response instances or by biological categories, and is not reducible to response instances. Key pecking is defined as a correlation between categories and is therefore "real."

Given the emergence of response classes from response instances by way of the behavior of the scientist, the mechanistic behavior analyst proceeds to use the same correlational strategy to identify the operant, a yet more abstract secondary category—when defined functionally in terms of a response class modified as a function of environmental consequences. The operant is a secondary category ultimately known by correlations to primary categories. The functional definition of the operant leads to the behavior-analytic conception of behavior itself, an abstract Pepperian secondary category not to be confused with the physical and bi-

ological objects and events that comprise the primary categories. The behavior analyst follows consolidated mechanism, whereby the behavior of relevance to the psychologist is not the activity of muscles and organs *per se* (primary categories), as in the earlier discrete mechanism of materialistic behaviorism, but the functional relations that emerge from the biological activity taking place under physical conditions. When Skinner says "Behavior is what an organism is doing" (1938, p. 6), in Pepper's terms he means that if we are to know what it is doing, we must identify correlations between secondary categories (such as stimulus and response classes) and between these and primary categories (such as response and environmental topographies).

For what it is worth, it appears that behavior-analytic theory nicely captures the essence of Pepper's consolidated mechanism, for he finds connecting primary and secondary categories by way of correlations (not identity or causation) to characterize best this more recent brand of mechanism. Furthermore, Pepper (p. 225) admits that many modern consolidated mechanists have shed a correspondence theory of truth in favor of a workability (in other words, pragmatic) criterion. Certainly there can be no doubt about Skinner's adherence to a pragmatic epistemology (cf. Zuriff, 1980).

In conclusion, based on Pepper's presentation of mechanism, behavior analysis is mechanistic. After citing Pepper as a basic source for much of his discussion of mechanism, Morris (1993) mentions that he relied largely on certain developmental psychologists' presentations of Pepper's theory. It appears that these sources shielded Morris from Pepper's "other" mechanism. If behavior analysis is mechanistic in Pepper's scheme, this has serious implications for those (such as Morris) who have offered Pepper's "contextualism" as a new source of inspiration for behavior-analytic science and knowing. But this is another story. Finally, for Morris to adjust his position by admitting that he is arguing that behavior analysis is not a Pepperian discrete mechanism would be rather hollow,

in that Pepper admitted that this version was virtually dead as long ago as 1942 (p. 187).

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