

On the Invulnerability of Behavior-Analytic Theory to Biological Research

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Hayne Reese concludes that current biological research aimed at a better understanding of behavior has not changed the preexisting behavioral theory. It is easy to agree with him, on two grounds.

The first ground of agreement is his review of the nature of that research. His review shows that current biological research is often directly relevant to behavior. It often adds to our understanding of behavior, and sometimes in surprising ways, but it simply has not changed behavioral theory. Instead, it has added facts and domains of phenomena for that theory to encompass, some of which are readily encompassed, and some of which will require more research, or more argument, to clarify how they will be encompassed. Behavioral theory is largely about the interactive control of behavior by environment and control of environment by behavior; biological research often shows us that the concepts of behavior and environment apply within the skin as well as outside it, and biological research often develops techniques for investigating within-the-skin behaviors and environments. (It has also added facts and domains of phenomena that behavioral theory is not about, and is not supposed to be about.)

The second ground of agreement is the nature of behavior-analytic theory. Ultimately, behavior-analytic theory is the theory used by people who label themselves behavior analysts. Those people were once few and homogeneous in those behaviors; currently they are more numerous and more di-

verse in those behaviors. But the homogeneous core still exists. That core is a collection of inductive summaries of very many, very well-done, very concordant experimental analyses of very many behaviors in very many settings, and in very many organisms of quite a few species across quite a range of ontogenetic and phylogenetic development.

The conclusion that a specific response of a specific organism was controlled in a specific setting by managing a specific environmental consequence of that response is a simple statement of experimental fact. However, a well-done statement of experimental fact is durable: No new research, biological or otherwise, can demote it from being true; it remains a fact forever. New research might show that it is an isolated fact, or a special case of some other proposition; or new research might show that it is a fact typical of and similar to many other facts. But in either case, it remains a fact. The core of behavior-analytic theory is a very large, repetitive array of just such facts.

Facts cannot be demoted from being true, but they can be promoted beyond their truth. Doing so makes one kind of theory, the core theory of behavior analysis. The proposition that this particular fact—a response was controlled by controlling its consequence—would remain true in the organism's future, and had been true in the organism's past, is a theoretical proposition, because it goes beyond the experimental fact. But it does not go very far beyond the fact, and part of its departure is open to test. The organism's past is not available for experimental analysis, of course, but its future is. Many ongoing

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experimental analyses showed that the fact remained valid for as much of the organism's future as was investigated.

Thus a more daring inductive summary emerged: Because that behavior of that organism had always been controllable by our management of that environmental consequence of it, it always would be; and a still more daring inductive summary supposed it always had been. And when a range of other behaviors showed similar responsiveness to a range of other consequences in a range of settings across a range of times and developmental stages in a variety of organisms, then a thoroughly daring inductive summary was posited: Behavior is sensitive to its consequences; to understand behavior, understand its consequences, and to manage behavior, manage its consequences.

A parallel recounting of our research history would yield a similar description of the sensitivity of behavior to its environmental antecedents. The better (i.e., more inductive) and still thoroughly daring inductive summary then becomes: Behavior is sensitive to the relation of its antecedents and its consequences; to understand behavior, understand the relation of its antecedents and its consequences, and to manage behavior, manage the relation of its antecedents and its consequences. This is

the familiar three-term contingency at the core of behavior-analytic theory, easily extended by inductive summarization to an N -term contingency.

The nature of inductive summaries, especially inductive summaries encompassing very, very many well-done experiments, the overwhelming majority of which fit the inductive summary, is that they cannot be wrong. Future research may show that they have their exceptions, or that they are special cases of a larger truth, but in any event, they remain correct for at least as large a universe as the facts they summarize. When that universe is very large, it is almost certain that, when a larger universe is investigated, the universe described by our present inductive summary will prove to be even larger than we knew when we made the inductive summary. Biological research at present seems almost certain to enlarge our universe in dramatic ways. But inductive summaries of very, very many, thoroughly concordant, very well-done experimental analyses will not change much when the next discipline finally reaches the borders of their domain. Indeed, they will not change much no matter what.

Thus, on one ground, Reese is apparently correct; and on a second ground, he must be correct.

There is, of course, always a third ground.