On Terms

A New Term and Some Old Advice

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Any science is marked by special verbal practices. A casual browsing through the pages of *Science* magazine reveals the extraordinary variety, even exotic flavor, of the languages of differing disciplines. These languages result from increasingly fine-grained discriminations and broader abstractions of a given subject matter. Through special practices and instruments the individual contacts events otherwise not encountered or talks about them as if personally contacted. The individual's speech reflects the control of those verbal communities; and through them, as well as by them, the events (if there) to which a given language refers.

Behavior analysis, as an established science, does not differ. How many people in the lay community arrange experimental and engineering settings through which they contact behavioral events in unambiguous form and with which they study reasonably unequivocal relations to other events? Particular scientific practices distinguish the behavior analytic community from others, and their effects separate what it says from how others talk about everyday behavioral phenomena. Gamblers do not tact their actions as resulting from schedules of reinforcement. Behavior analysts and their students contact, talk about, and become controlled by a scientific inquiry of behavior within a shared dimensional level of analysis (Skinner, 1959). Their vocabulary diverges from others'. The language becomes increasingly idiosyncratic, which

is as it should be, for new events are discovered and others found never to have been there. (For an excellent discussion of some of the characteristics of the language of the behavior analytic community see Himeline, 1980.)

As an outcome of the experiential differences between the behavior analytic community and those of other lay and professional communities, distinctions of commonly used terms begin to be made in a systematic fashion. The "On Terms" column exemplifies such an effort. Terms become inspected in order to distinguish between proper and improper use, that is, between controls of differing verbal communities. Peterson's (1982) column on the term "feedback" is a good example. And, new terms are recommended. They must meet two criteria: they are etymologically respectable and they will facilitate the use of other terms already in place.

"Postcedent" is such a term. In speaking of the three-term contingency, it is convenient to have terms that do not imply that functional relations exist between the events to which we refer. "Antecedent" for example merely refers to events occurring prior to the response of interest. Thus it is a neutral term that merely locates events in time and provides a point of reference for them. Curiously, there has been no equivalent term that provides the same convenience for speaking in general of events occurring in time after the one of interest. "Consequence" is often used. But it designates events occurring as a result of other ones and therefore connotes a causal relation—which may or may not exist. The equivalent term to "antecedent" is "postcedent," etymologically constructed on the same basis. As is probably well

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Figure 1. Summary of physical and behavioral terms of the three-term contingency.

known, "ante" means "before" and "cedent" means "to go" from "cedere." "Post" means "after" and as the Oxford (1971) states, "In English its use has received great extension, esp. in the prepositional relation in which compounds are formed almost at will, not only on words from Latin, but also, in technical terms, from Greek, and sometimes even on English or other words . . . These are often opposed to formations in 'ante-' or 'pre-'" (page 2250, column 1164). "Postcedent" allows the placement of events in time in the three term contingency in the same neutral manner as the word "antecedent."

Such placement contributes to a clearer distinction between our formal or physical language and our functional or behavioral one. Such a distinction underlines the fact that signals do not predict, feedback is not reinforcement, and movements are not operants. Physical events, including actions, occur in certain time sequences which particular establishing operations convert into behavioral phenomena of interest, such as motivational relations. Figure 1 illustrates these points in a summary manner. (For a fuller statement of the various motivative relations presently known or anticipated see Michael, 1982 and 1984.)

A Last Word

Analyzing the profitability of which terms to use is not a straightforward affair. Some subtle problems and current constraints are involved. On the one hand, using terms from other professional groups, and even from the vernacular, can be helpful. On the other, many terms from other verbal communities cannot be avoided since giving a thorough account of a behavioral phenomenon may involve other dimensional levels of analysis. Take, for example, the term earlier mentioned, "feedback." Peterson raises proper objections to its inappropriate use. However, for certain circumstances it is the proper word; specifically, where events are arranged following prior ones so as to modify them. Not yet knowing what effects will occur, such use prevents a prejudging of that stimulus arrangement as "reinforcing" or "punishing." The formal language helps sharpen the boundaries between functional effects and operational arrangements.

However, an attendant difficulty with terms not within the experimental history of the behavior analytic community is that they imply "conceptual schemes" (Skinner, 1938, page 7). These conceptual schemes, or paradigms, represent a

verbal community's organization of its relation to a subject matter. They thus mediate contact with it. All verbal communities know this and thus are sensitive to what is taught in order that a shared experience may survive. Note Michael's (1980) concern as to type and length of exposure in graduate training to verbal communities other than the behavior analytic. A continuing theme in a number of articles in this journal has been the need for counter control against the controlling effects of other verbal communities. Requisite to these ambitions is clarity as to what constitutes proper and improper types and sources of control over what we say and write.

A good deal of the language of the behavior analytic community derives from the lay community and from other professional groups. We have no choice until we fill in the gaps in our account of a subject matter that is shared though not necessarily similar. It takes time to build a science. As Kearney (1971) points out, though physics apparently evolved over the short period of the 16th through 18th centuries, it actually had long roots stemming back to the 12th century, to origins in the recovery of Greek science later rejected. Since the history of the scientific analysis of behavior is a rather brief one, it is not surprising that the language resulting from this effort should be so in-

fused with that of other verbal communities who earlier spoke of the same subject matter and who still do. The only antidote in the long run is greater effectiveness with that subject matter, but a necessary condition of such effectiveness is a continual scrutiny of our verbal practices.

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