On Terms

Concomitants, Categories, and Constraints

Michael Davison

University of Auckland, New Zealand

Imam and Lattal (1992) suggest the new term *concomitant* for a procedure in which an operant is controlled by a schedule when there are also response-independent reinforcers provided by the experimenters. I'd like to argue vehemently against this suggestion—not on account of the proffered name, but against categorization and nominalist tendencies in general.

I argue thus: Categorization is probably important in the early stages of a science when it is important to demonstrate that reliable differences exist. Thus, we have the periodic table and the classification of plants and animals. Categorization is, however, prescientific behavior, a precursor to the real business of a science, which is to look at the similarities between things. Are we interested in individual differences? Of course, but to gain a science of behavior, we need to look for the similarities in functioning between individuals—the general processes on which individual differences are built. It seems to be a reasonable hypothesis that individual differences may, at least in part, be accounted for by environmental differences (current or historical) operating in conjunction with general processes. At a rather early stage in the development of a science, categorization becomes a hindrance, rather than a help, to further development. Categorizations force scientists to work within categories, not across them. Do we still hold it dear that students can look at a lovely cumulative record and say “It's a VI” (or VR, or a sort of a VI, or what-

ever)? Surely not. How can our students design good and interesting experiments if they are constrained by the names of the categories of schedules? The development of experimental procedures has already gone too far beyond the category of nameable procedures.

Put it another way: Categorical names are a great and effective way of controlling behavior *in a very rough way*. “Good,” “bad,” and “ugly” are really useful words for the tabloid press, but my hope is that we can go a little beyond that level and try to put things a little more in context, with a few more dimensions to our understanding.

Our “schedules” are ways in which the environment works, the E-Rules of Baum (1973). The category “a VI schedule” is only a half-truth that tells us very little about the important variables such as whether the progression is arithmetic or exponential or fibonnacci, what the number of different intervals is, how they are progressively selected, what is the shortest interval. Unless we get away from such a category, we will either never investigate the effects of such arcane variables or we will at best never have names for what we use. The simple schedules are not discrete categories; they are procedures that shade one into the other, they are dimensions on which procedures lie. The last thing we need now is another category. I have been telling my students for the last 10 years to eschew categories in both their research and in their personal lives. Trouble is, I don't have much else to offer.

We do have feedback functions (Baum, 1992; Nevin & Baum, 1980) but these, although they can describe some aspects of the procedure discussed by Imam and Lattal (1992), have trouble describing all

Correspondence concerning this article should be sent to Michael Davison, Psychology Department, University of Auckland, Private Bag 92019, Auckland, New Zealand.

of the aspects of the procedure. We have Findlay's (1962) notation, but this is too qualitative and again cannot describe all aspects of the procedure. We have words, descriptions in Method sections, and these are excellent if the procedure is fully specified—which it often is not. We could also write "pseudocode" for the procedure that ran the experiment:

$$\begin{array}{l} 1'': \text{if}[\text{Set B}] \rightarrow \text{R}[\text{B: } 3 \text{ s}] < \\ \text{B1: if}[\text{Set A}] \rightarrow \text{R}[\text{A } 3 \text{ s}] < \\ \hline 1'': [p = .1] \rightarrow \text{Set A} \rightarrow \text{R}[\text{A}] < \\ 1'': [p = .1] \rightarrow \text{Set B} \rightarrow \text{R}[\text{B}] < \end{array}$$

or some such. It doesn't capture everything (and would be awfully difficult if your VI was via tape), but it's something.

So here is the final confession: In fact, I can't remember what many of the terms used by Ferster and Skinner (1957) mean. And I don't think I could get my Year 2 students to discriminate any more cons and coms—they have enough trouble with mults and mixes, and DRL, DRO, drl, FI, and FT (not to mention all the other schedules named by the applied behavior analysts). I tell them, "you'll have to learn all these in order to be able to understand the literature," but it isn't true. And a good proportion of what I teach them uses none of the simple schedules. I can arrange a "schedule" that sets up a store of reinforcers for an animal as a function of elapsed time and how many reinforcers are already in the store—a population-dynamic schedule, something akin to a "linear VI schedule" in some ways,

but it isn't linear in the sense I need. I need three parameters to specify the shape of the schedule. I don't need a name for it, thanks! But I need to be able to run the experiment in order to ask some interesting questions (well, I think they are interesting).

Let's not constrain the future by sticking with, or even increasing, the number of categories. Death to all categories! Let's work with dimensions! Let's recognize that environments can do anything! Corollary: Experimenters can do everything!

Postscript: Am I suggesting a category of category-less behavior? Is this Russell's paradox? Or am I suggesting that rank categorization is just very uncategorized-less?

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