

B. F. Skinner's Concept of Latent Behavior

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Skinner has argued that the principles of behavior that have emerged from the laboratory apply equally to all behavior, whether or not we are in a position to observe that behavior. Private events are experimentally inconvenient because, by definition, they cannot be objectively measured, but there is no reason to assume that they obey a separate set of behavioral laws. However, some behavior analysts object to any appeal to private stimuli or covert behavior, because doing so seems to invite subjectivity and speculation into a science founded on reliable and objective measurement. Their error lies in overlooking the difference between an experimental analysis of laboratory phenomena and the interpretation of fragmentary data outside the laboratory. We derive our principles of behavior from highly controlled studies using only observable and manipulable variables, but we can then apply those principles outside the laboratory to make sense of the world around us. In this respect we are doing just what all other sciences do: Scientists use laboratory analyses of physical and chemical phenomena to interpret the composition of stars, the speed with which they recede from us, the orbit of distant planets, the flattening of the earth at the poles, and myriad other phenomena in the field of cosmology. None of what we think we know about the universe beyond our planet is the result of a direct experimental analysis. We simply assume that the physical principles found on earth can be extended to the heavens. The extrapolation of laboratory principles to complex behavior is precisely analogous. Consequently many of us find Skinner's view of covert behavior to be parsimonious, powerful, and conceptually sound.

Although Skinner's position on covert behavior is fairly well known and is frequently debated, his concept of latent behavior is almost never discussed. Covert behavior is actually emitted; it is just unable to be recorded objectively given current circumstances or current technology. Latent behavior is a more nebulous concept. It is behavior in one's repertoire that is not emitted at the current time. That is, it is behavior that has been emitted and reinforced in one's history, but prevailing conditions do not evoke the response sufficiently strongly for it to be dominant at the moment. Skinner points out that we must conceive of such latent behavior as varying in probability. That is, at any moment, some latent responses will be stronger than others, although none of them are actually emitted. I think most readers find the concept of response probability so intuitively plausible that they do not notice that they are acceding to a concept far more subtle than that of covert behavior: What are these entities that vary in strength, and what is their status in a behavioral science? In what sense does a response that has not been emitted exist and how is it strengthened? Skinner's discussion of latent behavior is sprinkled throughout his writings, but his most explicit remarks are found in the William James Lectures:

Our basic datum, we may recall, is not a verbal response as such but the probability that a response will be emitted. This datum takes us beyond the classical notion of a vocabulary. One can be said to possess a number of different verbal responses in the sense that they are observed from time to time.

But they are not entirely quiescent or inanimate when they are not appearing in one's own behavior, as the older notion of the "use of words" seemed to assume. We recognize the additional fact that some responses are more likely to occur than others and that, in fact, every response may be conceived of as having at any moment an assignable probability of emission ... *A latent response with a certain probability of emission is not directly observed. It is a scientific construct. But it can be given a respectable status, and it enormously increases our analytical power.* (p. 25, emphasis mine)

To speculate about fluctuations in the strength of behavior that has not even been emitted may strike one as an unnecessary flirtation with hypothetical will o' the wisps unbecoming of a natural science, but Skinner is right. The concept of response probability—and hence the concept of operant behavior itself—entails a concept of latent behavior.

A few examples will suffice to make the point: Stimulus control is additive. Two discriminative stimuli that evoke responses of the same topography may be effective when presented together under conditions in which either alone might be insufficient. In a crossword puzzle, an answer might be emitted only under multiple control of the clue, the length of the word, and a few crossing letters. Another everyday example is the “tip-of-the-tongue” phenomenon. When we meet an acquaintance we may fumble for his name. We can almost say it, but not quite. Under these conditions, simply being told that the name begins with “W” may be sufficient. “Williams!” we cry with alacrity and force that suggests that the response is under multiple control. Consequently, a common mnemonic strategy under such conditions is to simply recite the speech sounds of the alphabet in order. In applied settings a verbal, visual, or gestural prompt is a standard device: a stimulus that, by itself does not control the target response but that combines its strength with other variables to do so.

In “The Verbal Summator and a Method for the Study of Latent Speech” Skinner (1936) summarized work showing that faint, rhythmic clicks or meaningless speech sounds, repeatedly heard, will eventually induce a listener to report hearing coherent speech:

A few repetitions of the skeletal sample *ah-uh-uh-oo-uh* may evoke the response *stars overlooking*. This is by no means the only response matched by the sample, and since it is not evoked by any stimulus acting at the moment, its emergence may be said to be due to its own relative strength. (p. 71)

That is, the emitted response is latent, but “not entirely quiescent.”

In *Verbal Behavior*, Skinner alludes to the effect of special audiences on a wide range of responses in one's repertoire. We speak with one vocabulary to maiden aunts, with a second to our pals in the tap room, with a third to learned colleagues. He suggests that the presence of such special audience simultaneously potentiates all elements of the relevant vocabularies. Clearly any such effect must be confined to latent behavior, since one cannot simultaneously emit all of the responses in one's vocabulary.

As Skinner noted, the concept of latent behavior greatly increases our analytical power. It would be hard to make sense of many empirical phenomena without it, and the central datum in operant behavior, namely, response probability implies such a concept. However, we are still left with a puzzle: What are the physical dimensions of latent behavior? If two latent responses have different “strengths,” that difference must be realized physically. The only plausible answer seems to be that difference exists at the level of the physiological substrate of behavior. Fortunately, this is not implausible. All behavior is mediated by the nervous system. The effect of any population of neurons is a function of rate of firing, and rate of firing can vary continuously. Rate of firing increases when a relevant stimulus is presented, but most fluctuations in neural activity necessarily fall short of evoking behavior. Thus the concept of latent behavior may be, as Skinner says, a scientific construct, but it does not raise insurmountable conceptual obstacles to an objective science. Moreover, it is an indispensable tool for interpreting verbal behavior and many other examples of complex human behavior.

References

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- Skinner, B. F. (1948). The William James Lectures (unpublished manuscript available at www.bfskinner.org)