

Markham, M. R., & Gallogly, R. H. (1997). Does language make humans more than clever apes? A review of *Language and Human Behavior* by Derek Bickerton. *Journal of Applied Behavior Analysis*, 30, 185-186.

This is the entire review (there is no PDF version available):

Is human behavior qualitatively different from the behavior of other species? We walk on the moon, cure disease, and create countless works of art. We also wage war, commit suicide, and threaten to drive other species to extinction. In *Language and Human Behavior*, linguist Derek Bickerton proposes to explain these paradoxical and seemingly unique features of human behavior that are clearly important topics for behavior analysis (e.g., Hayes, 1992; Holland, 1992; Skinner, 1953).

Bickerton argues that the most unique features of human behavior, specifically our cognitive abilities (i.e., thinking, reasoning, etc.) and the activities we call consciousness, are a direct result of our linguistic abilities. The four chapters of *Language and Human Behavior* present Bickerton's supporting arguments. In chapter 1, he argues that human language is qualitatively and quantitatively different from communication in other species. Chapter 2 proposes a natural selection account for the development of language in humans. Bickerton then proceeds in chapter 3 to argue that human intelligence (e.g., problem solving, thinking, etc.) is a result of language rather than vice versa. Finally, chapter 4 presents his argument that human consciousness also results from our use of language.

With some modification or redefinition of terms such as cognition and intelligence, many behavior analysts would agree with Bickerton's major thesis that language is a uniquely human activity (e.g., Horne & Lowe, 1996) and that thinking, reasoning, and consciousness (as human behaviors) are largely verbal activities (Skinner, 1953; 1957). In contrast, behavior analysts will likely be less sympathetic to the implications and details of Bickerton's case. Most notably, his account hinges on the view that language (and therefore thought and consciousness) is necessarily a representational activity, contrary to a behavior-analytic view of verbal behavior (e.g., Day, 1969; Skinner, 1957). Bickerton rejects functional accounts of language for viewing it as a means of encapsulating or representing the "products" of cognition so they might be transmitted or communicated. He does not consider the possibility of nonreferential functional accounts that view language not as a tool for communicating meaning but as a repertoire of behavior that enables us to interact effectively with our environment (Day, 1969; Skinner, 1957; Wittgenstein, 1953).

Thus, although Bickerton proposes to "stand the conventional wisdom of the behavioral sciences on its head" by taking the view of our species "as blundering into language and, as a direct result of that, becoming clever" (p. 40), he fails to abandon the cornerstone of that conventional wisdom—the

assumption that human behavior (including language) is the product of a representational system. As a result, he still places the causes of behavior in a cognitive architecture, with the only difference being that this cognitive architecture is now constructed from representational linguistic units.

Despite this major point of contention, there are several strengths of *Language and Human Behavior* that make it useful reading for behavior analysts. One obvious strength of this book is the fact that it is clearly written and understandable, even while discussing technical concepts, and the arguments are presented methodically. The result is a readable book that draws from a broad array of perspectives, including cognitive psychology, comparative psychology, evolutionary biology, and linguistics. This eclectic approach yields some interesting ideas, such as Bickerton's selectionist account for the emergence of language in humans and his distinction between language and other forms of animal communication.

From a linguist's perspective, Bickerton also reminds us that any account of language not only must explain the generalities of language but also must account for peculiar details. For example, he asks why the meaning of a clause like "John wants someone to work for" suddenly changes with the addition of one word: "John wants someone to work for him (p. 34). Bickerton correctly points out that behavioral accounts of language often do not address such specific instances.

In summary, many behavior analysts will likely agree with the general thesis of this book, but they will just as likely disagree with many details of its arguments. This does not necessarily detract from the value of the book, because differing viewpoints, when presented clearly and cogently, can serve to stimulate new ideas and discussion. For this reason, *Language and Human Behavior* is useful and stimulating reading for behavior analysts who are concerned with explanations of human behavior.

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