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Catania on Bruce

Lashley on serial order and Skinner on verbal behavior

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Darryl Bruce (1994) has provided a useful summary of Lashley's (1951) seminal paper on the problem of serial order in behavior. He writes, however, as if all "behavioristic" explanations of language necessarily appealed to associative chains and as if Skinner's account of verbal behavior is incompatible with Lashley's incisive analysis. The specific passage is as follows:

Was the significance of Lashley's serial order article more than the description of linguistic observations that were problematic for an associative chain theory? In particular, did it play a role in the shift in linguistic thinking that occurred in the late 1950s? Until that time, behavioristic explanations of language production and comprehension were preeminent. Skinner's (1957) Verbal Behavior was an especially prominent example; stimulus-response analyses of language were, likewise, common (p. 97).

Bruce seems to distinguish between Skinner's account and stimulus-response analyses, and is to be congratulated for doing

so. But some further clarification of the role of chaining in Skinner's account is appropriate.

Skinner was well aware of Lashley's arguments, and though he dealt with some aspects of verbal behavior in terms of response chains (in which one response produces discriminative stimuli that set the occasion for the next), he did not argue that all sequential behavior is produced by such chaining. The most relevant evidence is that Skinner's taxonomy of verbal behavior included verbal responses attributable to chaining as only one of several distinct functional classes of verbal behavior. He called such responses intraverbals, distinguishing them from other verbal responses that came about through other processes. Examples of intraverbal sequences include the completion of a line of poetry given the first few words or rote learned arithmetic facts such as the response "four" to "two plus two". Consistent with Lashley's views, Skinner also argued that sequences learned intraverbally could become units in their own right or, in other words, that they could become well enough established that they no longer depended on chaining.

A behavioral (or "behavioristic") account need not rely on associative chaining, and Skinner's variety of behavior analysis is a selectionist rather than an S-R or stimulus-response psychology (e.g., Catania, 1992). Skinner was concerned with function rather than structure, and his functional analysis is therefore orthogonal to many of the syntactic issues of special interest to linguists. Given that the above aspect of Skinner's Verbal Behavior was not only misunderstood by Chomsky but

continues to be often misunderstood, it seems worthwhile once again to clarify the record.

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