The Analysis of Verbal Behavior: Where Are We?

Joseph E. Spradlin
Schiefelbusch Institute for Life Span Studies

My first comment is a word of thanks to Mark Sundberg, who invested his time, effort, and money into making *The Analysis of Verbal Behavior* a reality. When the new editor of *The Analysis of Verbal Behavior* invited me to provide comments, I decided to review the first few volumes and then to compare them to more recent volumes. *The Analysis of Verbal Behavior* has undergone a remarkable transition since its inception in 1982. The first volume contained four titles and 15 pages. The first two articles by Michael (1982) and Vargas (1982) were essentially brief comments on the need for a refinement in Skinner's (1957) categories of verbal behavior. The other two titles introduced a reference list and a list of bookstores at which *Verbal Behavior* could be purchased. The next three or four volumes also consisted primarily of brief articles that dealt with definition issues (T. L. Smith, 1983), defended the concepts of *Verbal Behavior* against detractors (Sundberg & Michael, 1983), or provided refinements to Skinner's system (Michael, 1983, 1985; T. L. Smith, 1983; Sundberg & Michael, 1983). However, the 1986 volume had grown to 79 pages and had begun to include articles that included small amounts of data. This presentation of data represented a marked transition in the content of the journal. Prior to 1986, it appeared that Skinner's analysis of verbal behavior provided a set of propositions concerning verbal behavior that theorists and devotees could discuss, modify, and argue about. However, it appeared that either

Skinner had answered all of the questions concerning verbal behavior or that *Verbal Behavior* provided no guidance for the conduct of research. The occurrence of articles in which data were presented suggested that not all of the questions had been answered and that perhaps there were questions that could be answered by research rather than argument.

The topics of discussion and research have changed greatly since 1986. The last four issues of the journal have included reviews and comments on such topics as the relation of artificial intelligence to verbal behavior (Cherpas, 1992; Schlinger, 1992; Stephens & Hutchison, 1992), listener behavior (Stemmer, 1992), concept learning (Shimamune & Malott, 1994-1995), and the functional analysis of mentalistic terms (Leigland, 1996). The research articles have cast light on such issues as reports of past events (Kritch & Bostow, 1993), drugs and self-report (Critchfield, 1993), instructions and rule-governed behavior (Mistr, 1992; Newman, Hemmes, Buffington, & Andreopoulos, 1994-1995; Reitman & Gross, 1996), and automatic reinforcement (R. Smith, Michael, & Sundberg, 1996; Sundberg, Michael, Partington, & Sundberg, 1996).

The Analysis of Verbal Behavior was inspired by Skinner (1957), so it would not be surprising if the articles of the journal treated topics of the book. *Verbal Behavior* was a book about speaker behavior, so initially it did not generate a substantial amount of research concerning the variables that control listener behavior. Moreover, the first few chapters of the book highlighted the independence of verbal repertoires and the independence of speaker and listener behaviors. Early

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Address correspondence to the author at 3144 Campfire Drive, Lawrence, Kansas 66049.

issues of *The Analysis of Verbal Behavior* also seemed to highlight the independence of repertoires. However, later chapters of *Verbal Behavior* clearly indicated that under some conditions verbal repertoires are highly integrated. For example, Skinner (1957, p. 188) gives the example of a child who looks at a particular toy and says "What is that?" The parent says, "a doodler," and the child immediately says "Buy me a doodler." This example clearly indicates a relation among listener behavior, echoic behavior, and manding. Later (p. 360), Skinner gives the example of a child being told that an object is a Jones plug and then being able to tact the object and to respond appropriately to the command, "Please hand me a Jones plug." Clearly, Skinner was aware that under some conditions repertoires are integrated.

In some ways the development of research reported in *The Analysis of Verbal Behavior* has mirrored the progression of chapters in *Verbal Behavior* (1957). Early articles were focused primarily on speaker behavior and demonstrating the independence of repertoires. However, as noted above, the latest issues have included many articles on listener behavior. Moreover, in 1991 Sundberg suggested research topics that covered the full range of topics either directly addressed or suggested by *Verbal Behavior*. Sundberg outlined an ambitious scope of research that would appear to take many researchers many years to exhaust. However, if one reviews the behavior-analytic literature, other than that presented in *The Analysis of Verbal Behavior*, one finds research bearing directly on some of the topics suggested by Sundberg. This is especially true if one analyzes the study in terms of whether the designs, procedures, and results are given more consideration rather than whether the authors used the technical terminology of *Verbal Behavior*. For example, there has been a sizable amount of research on behavior that could be labeled as mands, but the authors of this research have often spoken of the research in terms of teaching requests (Brady, Saunders, & Spradlin, 1994-1995; Shafer, 1994-1995). Similarly, there has been considerable research on textual behavior, but this research has most often been labeled

as research on reading (de Rose, de Souza, & Hanna, 1996; de Rose, de Souza, Rossito, & de Rose, 1992; Joyce & Wolking, 1989; Mackay, 1985; Sidman, 1971; Sidman & Cresson, 1973; Wultz & Hollis, 1979). There has also been research on autoclitics and the combination of fragments of verbal behavior and minimal units; however, this research has often been discussed in such terms as morphology (Baer & Guess, 1973; Guess, Sailor, Rutherford, & Baer, 1968). There has also been research conducted within the more traditional language framework that relates to the concepts of *Verbal Behavior*, and journal articles have begun to show how that literature relates to the concepts of behavior analysis and *Verbal Behavior* (Robbins, Layng, & Karp, 1994-1995).

I hope that future issues of *The Analysis of Verbal Behavior* will include additional articles that attempt to review research related to Sundberg's topics, regardless of the theoretical basis for the articles. If it turns out, as I suspect it will, that many of the topics suggested by Sundberg have been addressed satisfactorily by research reported in other journals, then behavior analysts will be able to focus on a rich variety of important topics. I predict that research on the integration of repertoires will be a very productive area. Such studies might determine the variables that result in truthful behavior, whether that behavior is related to what one has done in the past or to commitments concerning what one will do in the future. Work has already been conducted in this area (Paniagua, 1990; Risley & Hart, 1968; Rogers-Warren & Baer, 1976); however, it merits more attention. Studies should cast light on how verbal behavior relates to the kind of planning that makes possible such awesome projects as putting men on the moon. Finally, research should determine how verbal behavior relates to emotional behavior. In addition to the topics suggested by Sundberg, I hope that future research will attempt to determine how verbal behavior relates to sexual behavior. For example, under what conditions does a written text or a spoken description evoke sexual arousal? Under what (if any) conditions can one's own verbal behavior result in self-control of sexual arousal? Could a careful analysis of variables that

control the relationship of verbal behavior to sexual behavior lead to successful treatments of pedophiles and rapists?

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