The *Hefferline Notes*: B. F. Skinner's First Public Exposition of His Analysis of Verbal Behavior

Terry J. Knapp, University of Nevada, Las Vegas

B. F. Skinner's first public exposition of his analysis of verbal behavior was the *Hefferline Notes* (1947a), a written summary of a course Skinner taught at Columbia University during the summer of 1947 just prior to his presentation of the William James Lectures at Harvard University in the fall. The *Notes* are significant because they display Skinner's analysis as it made the transition from spoken to written form; moreover, they are an effective supplemental source of examples and early approximations for comprehending Skinner's functional verbal operants.

Key words: B. F. Skinner, verbal behavior, Ralph Hefferline

B. F. Skinner's first public exposition of his analysis of verbal behavior was the *Hefferline Notes* (1947a), a written summary of a course Skinner taught at Columbia University during the summer of 1947 just prior to his presentation of the William James Lectures (Skinner, 1947b) at Harvard University in the fall term. (The *Notes* can be found at <http://www.lcb-online.org/html/34.html>.) They were called the *Hefferline Notes* because Ralph F. Hefferline made a stenographic record of the course lectures. Although Skinner had previously made reference to his views on verbal behavior (given lectures at various universities, published empirical works) and presented his analysis of verbal responses under the control of private events, it was only with the availability of the *Hefferline Notes* that the content of his working manuscript on verbal behavior became widely available to the emerging field of the experimental analysis of behavior, and that the members of that new discipline had a readily accessible précis of Skinner's position. Thus, the *Hefferline Notes* remain significant because they provide an intellectual

way station, as it might be termed, from Skinner's earliest hints at a behavior-analytic formulation of verbal behavior to the final product of his 1957 book, *Verbal Behavior*.

The *Notes*, actually titled *A Psychological Analysis of Verbal Behavior* (Skinner, 1947a), contain the fundamentals of Skinner's later full formulation, although there are significant differences between the *Notes* and the later text. This paper is a descriptive and comparative account of what is in the *Notes*, compared to the content that appears in *Verbal Behavior* (Skinner, 1957). The account is preliminary, however, because a more scholarly analysis would demand an historical-analytical comparison of the *Notes*, the William James Lectures (Skinner, 1947b), and the text of *Verbal Behavior*, with systematic attention to the development of Skinner's analysis of verbal behavior and its necessary embedment in his general theory of behavior (see Vargas, Vargas, & Knapp, 2007, for a summary of the construction of *Verbal Behavior*; also see Audery, Micheletto, & Serio, 2005, for a discussion of changes in Skinner's position).

Summer 1947: Columbia University

Fred Keller arranged for Skinner to teach summer school during 1947 at Columbia University (Skinner, 1979, p. 332). As Keller explained in his autobiography, "the big event in Schermerhorn that summer was a course in verbal behavior, offered by a visitor from Indiana. We had known of Burrhus's coming and most of us were able to attend his

I thank Jocelyn K. Wilk, public service archivist, of Columbia University for identifying the location and description of Skinner's course. I am indebted to Dorothy Hefferline who, several decades ago, along with Fred Keller, provided a biographical sketch of Ralph Hefferline as well as an original set of the *Hefferline Notes*.

Address correspondence to Terry J. Knapp, Department of Psychology, University of Nevada, Las Vegas, Las Vegas, Nevada 89154 (e-mail: terryk@unlv.nevada.edu).

lectures.” Keller was not able to attend the lectures, however, because his own course, “was scheduled for that hour, but Ralph [Hefferline] was there and did us all a service with a verbatim shorthand record of what happened” (Keller, 2008, p. 202).

Skinner taught two courses that summer: one on theories of learning and the other the verbal behavior class (Skinner, 1979). The class met in Room 710 of Schermerhorn Extension (see Dinsmoor, 1990, for a description of the psychology department at Columbia during this period) beginning on July 7 at 11:30 a.m. The 6-week course (to end August 15), Psychology s247, was titled *Psychological Interpretation of Verbal Behavior*. The course description in the summer bulletin announced “an analysis of basic processes in the behavior of the speaker and hearer. Logical, linguistic, and literary contributions are considered, but the major emphasis is psychological. Open to Ph.D. and qualified A.M. students” (Jocelyn Wilk, personal communication, April 6, 2007). No record of course members has been located, but among them was John A. Weigel, an English professor from Miami University of Ohio, who later wrote a fine biography of Skinner (Weigel, 1977). The Columbia course was instrumental in the development of Weigel’s appreciation of Skinner’s analysis of verbal behavior and literature. He later reflected on the influence it had on his own development:

I first met Professor Skinner in 1947 when as an instructor of writing I attended the behaviorist class in “Verbal Behavior” at Columbia University. At first I was shocked by his insistence on rejecting the work of all previous linguists, semanticists, and philosophers. However, I soon experienced a veritable conversion. I saw that it was not only possible to approach literature as behavior but that in fact it was the only sensible way. (p. 108)

Weigel would make a bold claim on Skinner’s behalf when he asserted, “It may seem incredible to anti-Skinnerians, but B. F. Skinner knew as much about literature and the so-called humanities as any dedicated literateur—with one big difference: He enjoyed knowing what he knew. His use of puns that summer was delightful and heuristic” (p. 108).

Skinner had lectured on the psychology of literature since the late 1930s, first at the University of Minnesota, where he was an assistant professor, and then at Harvard University in the summer of 1938, and at the University of Chicago during the summer of 1939. The immediate source of the material Skinner presented at Columbia was a manuscript on verbal behavior that he had “nearly completed” while holding a Guggenheim Fellowship in 1944–1945 (Skinner, 1957, p. vii).

Ralph F. Hefferline

Ralph F. Hefferline, a faculty member at Columbia, attended Skinner’s course. Skinner acknowledged Hefferline in the preface to *Verbal Behavior* (1957, p. vii), but the name was misprinted as “Hefferlien” perhaps as a consequence of dictation. Skinner explained in personal correspondence in 1975,

It’s the same Ralph Hefferline and it’s spelled –ine. He was an early admirer of Wilhelm Reich. His interest in Gestalt therapy arose after I more or less lost contact with him. Ralph attended the lectures I gave on verbal behavior at Columbia in 1947 and since he was a rapid stenographer he made a complete stenographic record. He then digested the material and published a long summary of my course. (personal communication, January 27, 1975)

In *The Shaping of A Behaviorist* (Skinner, 1979) the error was corrected and Skinner commented, “Ralph Hefferline ... had once been a court stenographer and he recorded my lectures in shorthand. Later he summarized his notes in seventy-six single-spaced pages and distributed mimeographed copies” (p. 332). Skinner added, “They covered much more ground than my William James Lectures” (p. 332).

Ralph Hefferline was from Indiana and had enrolled at Columbia University in 1930, completing his BS degree in psychology in 1941. During the interim years, Hefferline supported himself by writing detective stories and working in a secretarial capacity, acquiring stenographic skills in the process. He began graduate school in psychology at Columbia in 1941 and completed his doctoral

degree in 1947. Among the experiments in his dissertation was one in which the pre-conditioning rate of response, later to be termed the *operant level*, was determined; that is, how often would an animal, with neither training nor experimenter-arranged reinforcement, press a bar? Hefferline remained at Columbia, became a full professor and, for a period in the 1960s, chaired the department. He assisted Fred Keller with the introductory course in the experimental analysis of behavior. Hefferline's research program focused on proprioceptive stimuli and led to his operant conditioning of a minute muscle twitch in a subject's thumb without the subject's awareness. These and related studies helped initiate the field of biofeedback training, a field in which Hefferline is acknowledged as one of the early pioneers (Brown, 1974).

During this period, Hefferline also met weekly with Fritz Perls, founder of Gestalt therapy, and was soon a coauthor: He wrote the first half of the book, *Gestalt Therapy: Excitement and Growth in Human Personality* (Perls, Hefferline, & Goodman, 1951). No student of Hefferline's became better known than Joyce Brothers, who completed her dissertation, "An Investigation of Avoidance Anxiety and Escape Behavior in Human Subjects as Measured by Action Potentials in Muscle" in 1953, and emerged 4 years later as America's first media psychologist. She developed a wide public following based on her appearances on the television program, *The 64,000 Question*, and her later syndicated newspaper column. Thus, Hefferline's career at Columbia was diverse and complex. It illustrated an integration of experimental analysis and clinical problems, advances in fundamental methods, and was all undertaken with a foundation in Skinner's understanding of verbal behavior (Knapp, 1986).

The Notes

As reported earlier, Skinner had said that the *Hefferline Notes* (1947a) "covered much more ground" than the later William James Lectures (Skinner, 1947b). Such an observation must be reconciled with the disparity in length between the two manuscripts. The William James Lectures contain 176 single-spaced pages, and the *Hefferline Notes*

contain only 76 similarly spaced pages. "More ground" in this context must mean something like level of discussion or number of examples per page. The *Notes* do not contain summaries of the literature in any ordinary sense of that expression. There are no systematic citations, only occasional informal and incomplete references. However, there is a great density of examples and illustrations of verbal responses (far more than in the William James Lectures) spread among 30 divisions of 606 sequentially numbered unequal sections (see the Appendix for titles of the divisions). These sections vary in length from one sentence to paragraphs of several dozen sentences. The *Notes* were mimeographed. There is no record of how many copies were produced. At times quotation marks suggest that portions of the *Notes* are to be regarded as a verbatim record of Skinner's speech. At other times direct quotation is suggested with such qualifiers as "Skinner reported." It would be a mistake to treat the verbal behavior of the *Notes* as a word-for-word transcript of the course Skinner gave at Columbia. The text itself makes this clear. The *Notes* may be best regarded as Hefferline's summary of what Skinner said.

Both the *Notes* and the William James Lectures (Skinner, 1947b) opened with a description of the times as the "atomic age," but Skinner quickly suggested that the "age of words" may be a better expression. The entire discussion was dropped in *Verbal Behavior* (Skinner, 1957), and as a consequence there is a universal quality to *Verbal Behavior* not found in the opening of either the *Notes* or the William James Lectures. A reference to the "atomic age" would necessarily date the *Notes* to the late 1940s.

The *Notes* dismissed the traditional manner of handling words and their meaning, and called instead for a "naturalistic approach" wherein the "variables of which verbal behavior is a function" are analyzed in terms of "the conditions which lead to the emission of verbal behavior" (p. 2). "Our job," said Skinner, "is to relate verbal behavior to all of its predetermining conditions" (p. 3). We must "start in afresh, taking the subject matter as we find it ... and accept verbal behavior as we see it without presuppositions" (p. 2). This is a naturalistic approach inasmuch as verbal behavior is treated as a

natural object, that is, as a kind of behavior. Skinner removed the creator, the idea, the image, the agent, the meaning from verbal behavior. He did for verbal behavior what Charles Darwin did for the origin of species—he showed the action of selection in constructing categories.

Comparisons between the Notes and Verbal Behavior

Essentially the same definition of verbal behavior that appeared 10 years later in the book is found in the *Notes*: “Verbal behavior is distinguished from other behavior by the fact that it leads to results or consequences only because of the mediation of another organism” (p. 2). Later in the *Notes*, Skinner refined the earlier definition much as he did in *Verbal Behavior* (1957, pp. 224–226). In the *Notes* he said, “Verbal behavior is behavior which is mediated through the conditioning behavior of another organism where that particular conditioning arises from the existence of verbal behavior itself” (p. 56).

More than a mere definition of verbal behavior is offered; however, the *Notes* also contain a lengthy and thoughtful discussion of the process of defining verbal behavior (Division XXIV, Sections 465–475) that Palmer (2008) made good use of in his recent “On Skinner’s Definition of Verbal Behavior.” Skinner elaborated on “the fact that the response does not act mechanically upon the environment” (1947a, p. 57) by outlining more than a dozen consequences that follow from “verbal behavior as non-mechanical” action. For example, Skinner says, “there is no energy relationship between the response and the effect” (p. 57), “the effect of verbal behavior may be days, months, or years later” (p. 57), and there can be “multiplication of effect. One speaker—a million listeners” (p. 58).

After briefly discussing *Ways of Recording Verbal Behavior* and *The Unit of Verbal Behavior* (Divisions 3 and 4, respectively), Skinner introduced the now well-established categories of verbal response: mand, tact, echoic, intraverbal, and so forth. These units occupy the next 17 pages of the *Notes*. Thus, the opening organizational framework of the *Notes* is directly reflected in early sections of *Verbal Behavior* (Skinner, 1957).

There are, however, many differences in content between the brief *Notes* and the later volume. Some concepts in the *Notes* are later renamed, some are taken up in other works by Skinner, and some are dropped completely. For example, in the *Notes*, one large division (XIX) is titled “Secondary Verbal Behavior” that deals in part with what becomes the autoclitic in *Verbal Behavior* (Skinner, 1957). Another large division (XXVI) is titled “Control of the Individual by Self and Society”; here the self-control techniques elaborated in *Science and Human Behavior* (Skinner, 1953) are previewed.

In the *Notes*, Skinner used the expression “hearer” rather than the later “listener.” He explained the change in the *Shaping of a Behaviorist* (1979): “In my early notes and in my course at Columbia I used ‘hearer’ instead of ‘listener.’ Russell used it in his review of *The Meaning of Meaning* in the *Dial*. It is a more comprehensive term ... but it is hard to pronounce and ‘listener’ was taking over” (p. 335).

Skinner significantly recast the description of the mand in *Verbal Behavior* (Skinner, 1957). In the *Notes* the mand was introduced this way: “the mand is verbal behavior easily seen in the baby ... a type of R which in a given verbal community is characteristically followed by a substance or condition” (p. 4). The familiar line from *Verbal Behavior*, a “mand ‘specifies’ its reinforcement” (p. 36), did not appear. Instead, need or drive (deleted from *Verbal Behavior*) was invoked, as in “We get the R out by creating the need. Need is used here as synonymous with drive” (p. 4). A diagram of a speaker–hearer interchange was introduced. It was similar to Figure 1 in *Verbal Behavior*, but in the *Notes* the example was that of a child asking for toast rather than that of an adult asking for bread (p. 38). Skinner made the point in the *Notes* that the same analysis applied equally to gestures. Manding is a kind of reaching (p. 4). In *Verbal Behavior* the same point was made more generally (p. 14) or in a different manner (p. 47).

In the *Notes*, Skinner introduced the concept of *contract* to cover circumstances in which “there is a condition which requires behavior” (p. 40). Skinner devoted an entire section to contracts. The contract, Skinner said, says something about the behavior, but

does not give us the behavior. For example, “we simply want to be a writer but haven’t anything to say, or again we want to fill an awkward silence. There is no cue given as to what should be said—simply the pressure for speech at any price” (1947a, p. 40). Conditions are established for talk, but no or few specifications are given of its form. The concept is similar to one in classical rhetoric called the *occasion*. A president-elect affirming the oath of office is an occasion, or contract, for verbal behavior in the form of an inaugural address to follow. Speech is expected but it can take many different forms.

Skinner explained, “we have two ways of fulfilling a verbal contract: 1. Acquiring. This involves manipulating one’s own behavior so that one gets what is demanded.... 2. Encouraging. One may have the behavior in oneself but too weak strength to come out” (1947a, p. 40). He then reviewed ways of acquiring, elaborating, or strengthening verbal behavior. Although the concept of contract is dropped in *Verbal Behavior* (Skinner, 1957), the same variables were considered under such topics as self-editing and devices to encourage verbal behavior. Similar themes were developed in Skinner (1981).

Another major difference between the *Hefferline Notes* and *Verbal Behavior* (Skinner, 1957) is the discussion of individual differences among speakers found in the *Notes*, a topic that rarely appears in *Verbal Behavior*. Skinner mentions individual differences only twice in *Verbal Behavior*, and then only briefly (pp. 63 and 70). Nor does a discussion occur in the William James Lectures (Skinner, 1947b). In fact, there are few discussions of individual differences anywhere in the corpus of Skinner’s works, and for an obvious reason: The concept of individual differences arises only when an organism is compared to other organisms on some characteristic or trait, or multiple such traits, as measured by some metric. IQ is a classic example in the history of psychological practice. However, individual differences do not arise in the experimental analysis of behavior, because the behavior of the individual organism is compared to its own baseline at an earlier or later date. When Skinner refers to the speaker and listener in *Verbal Behavior*, he is referring to the

responses of an individual organism, but in relation to controlling contingencies of reinforcement, punishment, or discrimination and not in relation to the behavior of other speakers or listeners. Not so in a large section of the *Notes*.

Skinner argued, “we could mention hundreds of differences among people with regard to verbal behavior, for which tests could be designed if wanted” (1947a, p. 70). He then listed nearly two pages of examples, such as how many languages a person speaks, percentage of mands versus tacts, number of words used, sources of verbal behavior, grammatical patterns, intensity and rate differences, and the like. Skinner granted that there may be “practical reasons for tests,” but he doubted their usefulness to a functional analysis of verbal behavior (p. 71). So although measurements or tabulations may occasionally be made, “factors [as emerge in Thurstone’s factor analysis] possibly will not have much relation to the kinds of relations which emerge when we manipulate a variable and watch what happens” (p. 71). Skinner’s discussion of individual differences may be a function of the material he used in the courses taught during the late 1930s, or of the literature he had reviewed for possible inclusion in the then-planned volume on verbal behavior.

There is another possible source for the discussion of individual differences by Skinner, and it may have been more important than any set of empirical studies he had read. Skinner’s former Minnesota student John Carroll employed factor analysis, the primary technique for understanding individual differences. In fact, it was Skinner that had arranged for Carroll to go to the University of Chicago to work with “Thurstone’s people” (Skinner, 1979, p. 213) when Carroll’s interest moved in a statistical correlation direction. Carroll worked, in part, on tests of verbal factors.

Suppose you want to find something corresponding to verbal factors.... You run a very elaborate correlational analysis and come out with some factors.... One factor might be word fluency, another ability to manipulate verbal relations. How far does that take you and what can you do with it? (Skinner, 1947a, p. 70)

These were Skinner's questions. Obviously, he doubted the value of factor analysis in understanding verbal behavior. It represented a direct contrast to his formulation of a functional analysis. As Skinner noted in the division of the *Notes* entitled "Functional versus Correlation Analysis of Verbal Behavior," "you could make up a thousand tests of verbal ability. What you would come out with would be a set of factors having no immediate relationship to verbal behavior and you would get only the factors you put in the first place" (p. 70).

It can be left to future scholars to determine how Skinner came to delete consideration of individual differences from the final manuscript of *Verbal Behavior* (Skinner, 1957). In *Verbal Behavior* Skinner does present one of Carroll's verbal tests (p. 266), but in another section explains, "the style which is 'the man' need not detain us; everyone has idiosyncrasies of verbal behavior" (p. 282).

In several places in the *Notes*, Skinner indirectly mentioned studies he conducted (without formal citations) or experiments that could be conducted, but he declared in the end that "I don't myself at the moment feel the pressure for experimental work here. That may be because my interest originally was in the analysis of existing examples of verbal behavior" (1947a, p. 74). Skinner was presenting an interpretation rather than an experimental analysis, as he would make explicit in *Verbal Behavior* (Skinner, 1957, p. 11). Research was stimulated by Skinner's course, however. Anne M. Ritter, who earned her doctorate in 1949 at Columbia, based her dissertation on echoic responses with experiments that can be traced to the verbal behavior course (Dinsmoor, 1990). In a footnote she wrote,

In a series of lectures on verbal behavior Skinner ... referred to the human being's repertory of echoic responses. He suggested that it can be shown that there are not only reasons for echoic behavior in the acquisition of speech, but also in the maintenance of speech. (Ritter, 1949, p. 93)

In *Verbal Behavior* (1957) Skinner emphasized the work of John Horne Tooke and described Tooke's *Diversions* as "an extraordinary book" (p. 340). In the *Notes*, Tooke received brief treatment:

John Horne Tooke, Englishman of the 18th century, wasn't liked and was popped into jail once or twice by the government. He had one trial which hinged on the interpretation of the word *that*. This got him going and he wrote a book with a Greek title and the subtitle '*The Diversions of Purley*.' ... He was a good behaviorist, although he didn't know it (Skinner, 1947a, p. 36)

The term *autoclitic* does not appear in the *Notes*. In *Verbal Behavior* (1957), Skinner had defined an autoclitic as "behavior which is based upon or depends upon other verbal behavior" (p. 315). The same concept is termed *secondary verbal behavior* in the *Notes*, a term Skinner had borrowed from Bertrand Russell. In *Verbal Behavior* he explained, "the distinction which Bertrand Russell makes between a primary and secondary language is closer to the distinction between autoclitic and nonautoclitic behavior than Carnap's distinction between object language and metalanguage" (p. 320). In the *Notes* Skinner defines secondary verbal behavior as "verbal behavior which is ... emitted with respect to other verbal behavior" (p. 35).

Skinner discusses self-control techniques in a lengthy section of the *Notes* (1947a, pp. 64–68). Much of this analysis will later appear in chapter 15 of *Science and Human Behavior* (Skinner, 1953). As Skinner explains in a later section of the *Notes*, verbal behavior is relevant to self-control because "the awareness of self emerges from a verbal community. You would be entirely an 'animal soul' were it not for the ways in which society forces you to make discriminative reactions to your own behavior" (p. 75).

In a division likely stemming from Skinner's courses in the analysis of literature (Skinner, 1957, p. vii; 1979, pp. 229, 248), he discussed the literary uses of verbal behavior (1947a, pp. 68–70). Literary forms are described as controlling the kind of talk that emerges. "The invention of the novel" for example, "and the growing up of an immense reading public gives some new features, some new chances to talk" (p. 69). Moreover,

We find a cumulative progress [in the development of fiction writing] toward a

more and more direct means of saying things. The cumulative form at the moment would be the Joycean stream-of-consciousness kind of thing, where all grammar is forgotten, you no longer even bother about punctuation, you just let the stuff spout out. (p. 69)

These claims are developed in *Verbal Behavior* (pp. 396–399) under “The Literary Audience.”

A division entitled “General Functions of Verbal Behavior in Human Society” (Skinner, 1947a, pp. 60–64) discussed the “social gain” to the community provided by the emergence of verbal behavior, and contrasted literary versus scientific uses of verbal behavior. Much of what was discussed here can be found in fuller form in chapter 18 of *Verbal Behavior* (Skinner, 1957).

Skinner made use of examples from his own experience, and these provide strong evidence of self-observation in the construction of the analysis.

He was working in the basement and went off leaving an electric soldering iron plugged in....Thirty-six hours later he was reading something and came to the word solder. He immediately jumped up and ran down to the basement and turned off the iron. (1947a, p. 25)

On another occasion, he “started to say, ‘I know that person personally.’ He suppressed the last word [society’s taboo of repetition], and started to say *deeply*, but came out with *deepally*” (p. 22). Some examples go back to his undergraduate days at Hamilton College:

When the meals in Skinner’s dormitory got bad he suggested: “We must call a diet to deal with the matter.” *Diet* is an unusual choice from the group of words such as *caucus*, *meeting*, etc. Perhaps he was thinking of the Diet of Worms. (p. 21)

In another example,

Skinner was traveling north through Maine along the coast. He drove around a turn and was almost smashed into by another car. Skinner was upset and, as he went on, he was under the stimulus of this emotion, he was surprised to see a sign along the road: “One Mile to Death.” When he looked again “Death” changed to “Bath.” (p. 26)

These autobiographical details add a unique dimension to the *Notes*. “When Lewis was trying to organize a CIO union for farmers, Skinner woke one morning singing, ‘Old MacDonald had a farm, CI, CIO’” (p. 48), or again, he reported that he could not stop his pathological reading of car-cards and billboards. Some of the personal examples were included in *Verbal Behavior* (Skinner, 1957), such as “who followed Hume” in making up an examination (1957, p. 386; 1947a, p. 30) although they are expressed in the third person (see the soldering iron example, 1957, p. 244).

Two illustrations derived from Skinner’s Harvard experiences were dropped from *Verbal Behavior* (Skinner, 1957):

Dean Briggs, of Harvard, was to speak at a commencement ceremony. The chairs had been varnished shortly before and were still sticky. When Briggs was introduced and started to rise, he had difficulty breaking loose from the chair. He began, “I had intended to bring you an unvarnished tale.” (Skinner, 1947a, p. 21)

Skinner used the example to illustrate the concept of multiple causation. In another Harvard example, he observed, “President Conant ... prefixes almost every statement with a statement about his own verbal behavior—‘*It is interesting to note that*’—It is only after the *that* that he begins to use primary language” (1947a, p. 35) as opposed to secondary language.

Of course, most aspects of the *Notes* were carried over to *Verbal Behavior* (Skinner, 1957). Here is an example of how the *Notes* were transformed into the later book. From the *Notes*: “A radio advertising writer may have one minute to use. He must employ *fresh* three times, *dated* three times, *Chase and Sanborn* six times. What else appears does not matter a bit” (p. 39). In *Verbal Behavior*, the example took this form:

A good example of composition which requires filling in is the writing of “commercials” on radio and television. Often the only assignment is that the name of the product and two or three relevant adjectives shall be emitted a number of times in a short passage. Sentences must be composed containing the name and adjectives, but the other

material is essentially undermined.
(p. 349)

Again, he omitted the specific time-bound components in exchange for a more abstract general statement.

In concluding his course, Skinner described what he had sought to accomplish during the previous 5 weeks:

I have emitted perhaps two or three hundred thousand words. What about my behavior? I tried to develop an analysis; I tried to get you to react to an extremely complicated state of affairs with certain instrumental terms. To see that certain things are examples of such and such. I myself feel that I can now talk about the phenomena of behavior better than I could ten years ago. This enables me to see similarities and differences and make more effective adjustments to verbal phenomena than I could before. I hope that also occurs in you as a change in your verbal behavior. (1947a, p. 75)

Skinner continued,

The main goal of a course on verbal behavior in a department of psychology is one of integrating the subject matter with the field of human behavior in general and coming out with an effective vocabulary and technique of research which will bridge the gulf between the verbal and non-verbal, or between verbal and the vestigial remnants of a dualistic system. (p. 76)

There is strong evidence that he was successful (Sautter & LeBlanc, 2006; Schlinger, 2008).

The *Hefferline Notes* were soon superseded by the William James Lectures (Skinner, 1947b). When a secondary account of Skinner's analysis was published in an early textbook for the science of behavior (Keller & Schoenfeld, 1950), it was the William James Lectures that formed the foundation. Describing his work during the early 1950s, Skinner cited the availability of both the *Notes* and the Lectures and the pressing need for a Natural Science 114 (his undergraduate course at Harvard) textbook as the reasons for postponing a final draft of *Verbal Behavior* (Skinner, 1983, p. 84).

Students of verbal behavior owe a debt of gratitude to Ralph Hefferline's stenographic skills that preserved the course record of *A Psychological Analysis of Verbal Behavior*

(Skinner, 1947a) for future use. Today the value of the *Notes* for historians is in the window they provide into Skinner's analysis as it transitioned from spoken form to its written representation 10 years later in *Verbal Behavior* (1957). It would be an error, however, to regard the *Notes* as having only an historical value. For a student of verbal behavior, the *Notes* are an effective supplemental source of examples and a powerful source of additional stimulation in comprehending Skinner's analysis. In places the *Notes* extend the text of *Verbal Behavior*; in other places they provide evidence of false starts. The *Notes* were Skinner's first public exposition of his analysis, which allowed their readers to share in an early approximation of the final form represented in *Verbal Behavior*.

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- III. Ways of Recording Verbal Behavior
 - IV. The Unit of Verbal Behavior
 - V. The Mand
 - VI. The Tact
 - VII. Extensions or Generalizations of S^D
 - VIII. S^D Relationships with Verbal Responses
 - IX. The Unit of Correspondence between the Situation and the Verbal Response
 - X. Distortions of the Tact Relationship
 - XI. The Audience
 - XII. The Textual Verbal Response
 - XIII. The Echoic Verbal Response
 - XIV. Intraverbal Responses
 - XV. Multiple Causation of Verbal Operants
 - XVI. Prompting and Probing
 - XVII. Distortions, Displacements and Intrusions of Verbal Responses
 - XVIII. The Speaker's "Knowledge" of What He Is Saying
 - XIX. Secondary Verbal Behavior
 - XX. Verbal Behavior which Fulfills a Contract
 - XXI. The Behavior of the Hearer
 - XXII. Style
 - XXIII. Thought
 - XXIV. General Characteristics of Verbal Behavior
 - XXV. General Functions of Verbal Behavior in Human Society
 - XXVI. Control of the Individual by Self and Society
 - XXVII. Literary Uses of Verbal Behavior
 - XXVIII. Functional versus Correlation Analysis of Verbal Behavior
 - XXIX. Individual Differences in Verbal Behavior
 - XXX. Miscellaneous Aspects of Verbal Behavior

APPENDIX

Division headings for *A Psychological Analysis of Verbal Behavior* (76 pages total, XXVII is repeated by error in original ordering)

- I. The Traditional Dualistic Approach to the Problem of "Meaning"
- II. The Naturalistic Approach to the Study of Verbal Behavior