

## A History of the Term *Radical Behaviorism*: From Watson to Skinner

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This paper describes the origins and evolution of the term *radical behaviorism*. John B. Watson's coining of *behaviorism* in 1913 is presented first, followed by a discussion of the uses of "radical" within psychology during these early years. When the term *radical behaviorism* first emerged in the early 1920s, its referent was Watson's behaviorism, most specifically his stance on consciousness. In the 1930s, B. F. Skinner described his own position with the term *radical behaviorism* in an unpublished manuscript, and then in 1945 first referred in print to his views as such. Today, *radical behaviorism* is generally applied to Skinner's views alone. The paper concludes with a brief discussion of a similarity in Watson's and Skinner's positions on consciousness, which seems a possible historical and philosophical connection between their respective radical behaviorisms.

*Key words:* radical behaviorism, *behaviorism*, "radical," history, John B. Watson, B. F. Skinner

Although the term *radical behaviorism*<sup>1</sup> today generally refers to the views of B. F. Skinner, its origins and historical evolution remain largely unexplored. Skinner, himself, seems to have been the first to use *radical behaviorism* in published reference to his views—in his 1945 paper on subjective terms (Skinner, 1945, p. 294)—but the term had existed before then. Indeed, Skinner had used the term to describe his views in the 1930s, but in an unpublished manuscript; moreover, *radical behaviorism* was in use even prior to this. The purpose of this paper, then, is twofold—to describe the origins and historical evolution of the term *radical*

*behaviorism* and, in particular, to suggest how Skinner's views came to be so named.

As an etymological and historical exercise, we hope that what we present will be of interest in itself. But there is possibly another benefit: Our findings may clarify to some degree what it is to be a radical behaviorist, for by describing the origins of *radical behaviorism*, we are also exploring the evolution of its meaning (cf. Mach, 1883/1960; Skinner, 1931; see Marr, 1985). This does not make our exercise essentially philosophical in nature—for it is not. Rather, we are simply suggesting that the meaning of the term *radical behaviorism* may be found, in part, in the historical evolution of its use or, more technically, among the variables that have come to control its emission (i.e., its being "tacted"; see Skinner, 1957, pp. 13-14). This historical approach towards understanding scientific terminology may contribute to an appreciation of what behavior analysts and others mean when speaking of *radical behaviorism*.

Finally, we would like to comment briefly about the character of the material to follow. Our research was primarily archival in nature, and the raw data for our analysis are the written etymological and historical records of psychologists and philosophers who have come before us (see Parrott & Hake, 1983). Just as do other researchers, we present our data for scrutiny by the scientific community, and

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<sup>1</sup> When reference is made to a technical term qua term, it is italicized, unless it is given as a quote from another source (and therefore within quotation marks). Nontechnical terms are set off with quotation marks (see the *Publication Manual of the American Psychological Association*, 3rd ed., 1983).

thus have included more quoted and footnoted material than is usual. In doing so, however, we provide readers with access to many of the variables that led us to our conclusions.

That said, let us turn to our task, first, by describing John B. Watson's coining of *behaviorism*, and second, by discussing the various uses of "radical" during the early years of behaviorism's development. Following that, we describe the emergence and evolution of *radical behaviorism*.

### BEHAVIORISM

*The term behaviorism as now used represents so many different points of view, and these will change so frequently during the next decade that the word "behaviorism" will hardly survive.* (Weiss, 1929, p. 147)

Originally, there was just one behaviorism—Watson's, and Watson was apparently the first to use the term (and its variants) in print. He did so in his 1913 challenge to psychology, "Psychology as the Behaviorist Views It" (J. B. Watson, 1913b). To quote from the classic introduction of Watson's (1913b) manifesto:

Psychology as the behaviorist views it is a purely objective experimental branch of natural science. . . . Introspection forms no essential part of its methods, nor is the scientific value of its data dependent upon the readiness with which they lend themselves to interpretation in terms of consciousness. The behaviorist . . . recognizes no dividing line between man and brute. (p. 158)

Although not entirely original, these recommendations were bolder and more far-reaching than those of Watson's predecessors (Burnham, 1968; Harrell & Harrison, 1938, pp. 368–369, 373–375, 380; Leahey, 1980, pp. 287–295; Marx & Hillix, 1979, pp. 126–132), and essentially established behaviorism as a system of psychology.

In 1914, Watson commented on his choice of words to describe his new psychology: "A few terms have been used in this discussion of behavior—such as *behaviorist*, *behavioristic*, *behaviorism*. . . . it is admitted that these words sound somewhat barbaric on a first hearing" (p. 1). Later, Watson stated more clearly that

he had coined these terms: "In these three publications [J. B. Watson, 1913a, 1913b, 1914] the terms 'behaviorism,' 'behavioristic,' and 'behaviorist' were first used" (J. B. Watson, 1927, p. 248). That Watson coined the term *behaviorism* and its variants is also affirmed by his contemporaries (Boring, 1929, p. 582; Woodworth, 1924, p. 259) and by modern etymological sources (e.g., Finkenstaedt, Leisi, & Wolff, 1970, p. 1370).<sup>2</sup> Moreover, our consultation of dictionaries and psychological and philosophical works prior to 1913 did not turn up any previous use of the term. Warren (1914b, p. 11) suggested that Angell coined the term independently (see also Rucker, 1969, pp. 38–39), but the first use we located by Angell (1913, p. 261) was accompanied by a citation to Watson's (1913b) paper.

Perhaps this new name, as well as Watson's energy and ability in disseminating behaviorism and applying it to practical concerns, helped it quickly to become an object of psychological, philosophical, and public discussion. Restricting ourselves to the first, psychologists certainly began discussing the perspective under its new name without delay. For example, as alluded to above, in the second issue of the *Psychological Review* after the one containing Watson's (1913b) behaviorist manifesto, Angell (1913, pp. 261, 264) cited Watson's article and used the term *behaviorist*; and in 1914, in the same journal, both Bode (1914) and Warren (1914a) published articles using Watson's terminology. The new terms also appeared before long in journals such as the *Psychological Bulletin* (see, e.g., Wells, 1913) and the *Journal of Philosophy, Psychology, and Scientific Methods* (see, e.g., Melville, 1914, p. 357). Although occasionally enclosed in quotation marks—even as late as 1953 ("so-called 'Behaviourists,'" Drew & George, p. 173)—the term *behaviorism* and its variants caught on quickly.

### "RADICAL"

*The year 1913 marks the birth of the most radical of all psychological concepts,*

<sup>2</sup> For an account of the etymology of "behavior" in general, see Williams (1976, pp. 35–37).

that of "behaviorism." (J. S. Moore, 1921, p. 31)

The standard dictionary definitions of "radical" have remained basically the same throughout this century (see Williams, 1976, pp. 209–211 for an etymology of "radical"). Warren's 1934 *Dictionary of Psychology* provides a good summary of psychological use: "radical = a loose term signifying *thoroughgoing* or *extreme*. [Lit. going to the root] [sic]. . . . in psychology it is usually applied loosely to the holder of any very unusual views" (pp. 221–222). The related uses of radical as "iconoclastic" and "political" are also found in psychology.

The word "radical" has been used often in psychology in these four senses—extreme, thoroughgoing, iconoclastic, and political—of which all might be relevant to the term *radical behaviorism*. Radical in the sense of thoroughgoing, however, is found less frequently in the literature (e.g., Morgan, 1922, p. 162) and was presumably less influential, and will not be discussed here (but see Michael, 1985, pp. 100–101 for a current interpretation of "radical" behaviorism as thoroughgoing). Some pertinent and representative examples of the other three usages from the period of early behaviorism follow, both from before and after the first use of *radical behaviorism* in 1921 (Calkins, 1921). These selections illustrate that "radical" in psychology often referred to an "extreme" or "iconoclastic" departure from the widely accepted views on consciousness and the use of introspection. First, in its sense of "extreme":

To be a science, [psychology] must turn its back on all purely private data, and concern itself with material as objective as that which the physicist or biologist studies. . . . As one would expect, this radical suggestion has not escaped criticism. (Jones, 1915, p. 469)

Now comes Professor Bode, and accuses me of not being sufficiently and consistently radical. . . . According to him, Professor Lovejoy and myself both ruin our arguments at the outset by postulating a transcendent power of thought. (Dunlap, 1916, p. 53)

The close relationship of functionalist psychology to biology, however, has led many of the more radical followers of this general viewpoint (as Pillsbury and W. McDougall) to renounce all mental or sub-

jective terms in their definition of the science and to prefer the simple statement that Psychology is the science of *behavior*. (J. S. Moore, 1921, p. 29)

The two most radical doctrines put forward by the behaviorist are, first, that consciousness does not exist, and second, that psychology should wholly abandon the introspective method. (Washburn, 1922, p. 89)

The most radical of [animal psychologists, with an allusion to Watson] are for excluding altogether the study of consciousness. (Woodworth, 1922, pp. 29–30)

Second, in its senses of both extreme and iconoclastic:

For Watson, however, behavior and consciousness were mutually exclusive, and to define psychology as the science of behavior meant making a radical departure and ruling out all introspection, all reference to consciousness, and, as he conceived, practically all of psychology as it had developed up to 1912. (Woodworth, 1931, p. 51)

There have come down wolf-like on the psychological fold the already mentioned behaviourists. The most extreme of these would deny to man the power of observing his own consciousness *at all*; and on the radical ground that, in truth, no such consciousness is known to exist! (Spearman, 1937, p. 79)

Third, in its general political sense, "radical" has often implied the far left (cf. Williams, 1976, pp. 209–211). Correspondingly, during the early years of behaviorism, an analogy was occasionally drawn between the far left and "radical" views of consciousness and introspection (e.g., Jastrow, 1927, p. 175 for a reference to Watsonian radical behaviorism as "this extreme left wing of Behaviorism"; see also Pear, 1922, p. 231; Warden, Jenkins, & Warner, 1934, p. 3; the analogy to the far right, however, may also be found<sup>3</sup>). We might also note that radicalism itself was occasionally a subject matter for psychology in the early 1920s (e.g., Wolfe, 1921), and discussions of it may have had some influence over the general use of "radical" in psychology.

That "radical" should come to be paired with *behaviorism*, then, is perhaps

<sup>3</sup> ". . . the left wing, made up of those who confine their attention to the introspection of their own mental states, 'experience subjectively regarded'; that keen and fighting band on the right, which refuses to truckle with 'consciousness' and considers only behavior" (Humphrey, 1929, p. 59).

not surprising. "Radical" also became a modifier in other psychological terminology, such as *radical functionalism* (J. S. Moore, 1921, p. 31) and *radical positivism* (D. L. Evans, 1924, p. 348). A similar term—*radical empiricism*—which possibly influenced the use of "radical" in psychology, and the naming of *radical behaviorism*, originates from the field of philosophy.

### *Radical Empiricism*

In the 1900s, William James introduced radical empiricism, which he himself named (James, 1904b, p. 534; Runes, 1962, p. 90; see James, 1909, pp. xii–xiii for a brief summary). Two features of this philosophical view were described in James's (1904a) article, "Does 'Consciousness' Exist?," which was reprinted as the first of James's *Essays in Radical Empiricism*. One feature reflects James's stance on consciousness, which seems compatible with Watson's:

A number of . . . authors seemed just on the point of abandoning the notion of consciousness. . . . But they were not quite radical enough. . . . I mean only to deny that the word stands for an entity. . . . [There is] no aboriginal stuff or quality of being contrasted with that of which material objects are made; but there is a function in experience which thoughts perform, and for the performance of which this quality of being is invoked. (James, 1904a, pp. 477–478)

A second and more central feature of James's radical empiricism is an expansion of these ontological views:

There is only one primal stuff or material in the world, a stuff of which everything is composed, and if we call that stuff 'pure experience,' then knowing can easily be explained as a particular sort of relation towards one another into which portions of pure experience may enter. (James, 1904a, p. 478)

As this passage suggests, James's form of anti-dualism did not imply materialism (see also, e.g., Chakrabarti, 1975), though Watson's did (see J. B. Watson, 1930, p. 3). As one commentator states, "It would be an inexcusable error to think of James as a behaviorist in the Watsonian sense of this term. . . . His radical empiricism stood in the way of any such move" (Wild, 1969, p. 365). Radical empiricism's first feature concerning the nonexistence of

conscious entities, however, was compatible with Watson's views, and this fact was not lost on psychologists (see, e.g., the title and foreword of the behaviorist Holt's 1931 text).<sup>4</sup> Although there is no direct evidence for a connection between radical empiricism and the naming of *radical behaviorism*, it seems not unlikely that William James at least contributed to the linguistic Zeitgeist that led to that naming.

### **WATSONIAN RADICAL BEHAVIORISM**

*Is it not true that, as in the case of our philosophies, there are behaviorisms and behaviorists?* (Yerkes, 1917, p. 155)

*There was a time when the term 'behaviorism' in the title of a speech required no further specification. Every psychologist at least knew the referent to be that new brand of psychology, introduced by Watson, which proposed to break with tradition and deny that psychology had anything to do either with a mentalistic entity called consciousness or a method known as introspection. Today the situation is not so simple.* (Spence, 1948, p. 67)

Yerkes could have pointed out to Spence that the situation was "not so simple" even in 1917, for the original behaviorism soon had rivals for its title. Watson had barely introduced behaviorism when others who did not outright accept or reject it wanted to alter it (Heidbreder, 1933, p. 260; see J. B. Watson, 1924, p. viii on "half-way behaviorists"), and modifiers were soon added to the term *behaviorism* in order to differentiate the varieties. Formal technical terms for precisely specified referents evolved and, in some cases, modifiers that seemed at first purely descriptive became part of formal terminology (e.g., "extreme" in

<sup>4</sup> Skinner has been referred to as a radical empiricist (Neel, 1977, p. 173; Spence, 1952, p. 153), but the usage is ambiguous and, at such a distance from James, may not be referring to James's philosophy (but see Hillner, 1984, p. 169 for a possibly Jamesian use).

*extreme behaviorism*, which, when formal, lost many of its negative connotations). In the first part of this section, we examine the use of some modifiers other than "radical" and "Watsonian." We then discuss the first published reference to *radical behaviorism* that we were able to locate (Calkins, 1921). Finally, we trace the usage of the term for Watson's psychology from the 1920s through 1955. Watson himself, by the way, is not known to have used the term *radical behaviorism*, and in going through his writing, we did not come across it. (See, however, J. B. Watson, 1913a, p. 421, repeated in 1914, p. 16, for a use of "radical" in connection with his denial of imagery, and J. B. Watson, 1920, p. 54, for a use of "radical" with reference to thinking as only a reflection of behavior.)

#### *Other Terms for Watsonian Behaviorism*

As described in the last section, "radical" was a common descriptor for behavioristic ideas and, as might be expected, several of the synonyms of radical given above—"extreme" and "thoroughgoing"—were also used in conjunction with *behaviorism*. *Thoroughgoing behaviorism*, however, occurred only infrequently, apparently beginning in 1921 (J. S. Moore, 1921, p. 33).

"Extreme" was probably the most common adjective used in connection with *behaviorism* for many years, and may still be found today (e.g., Chaplin & Krawiec, 1979, p. 55; see Margolis, 1984, p. 34 for a reference to Skinner as an "extreme behaviorist"). Back in 1914, Sidis referred to Watson's "extreme view of the denial of introspection" (p. 44; see also Marvin, 1914, p. 3). Then, in 1915, *extreme behaviorists* (MacIntosh, 1915, p. 277) and *extreme behaviorism* (Marvin, 1915, p. 14) appeared and began to be used. In general, the modifier was used to emphasize the differences between Watsonian (or close-to-Watsonian, e.g., Weissian) views and more traditional views. Usage was both descriptive and formal, a distinction that may be impossible to make. For instance, without adequate context, an author referring to "the

extreme behaviorists" might mean (a) Watson and holders of very similar views, (b) a less specific group of psychologists and philosophers, or (c) the extremeness of the views of either group. In any case, other than *radical behaviorism*, *extreme behaviorism* was the term we found most often as the designation for Watson's psychology.

Of the other labels, *strict behaviorism* first appeared in the same article where *radical behaviorism* originated (*strict behaviorism* was used in a footnote in Calkins, 1921, p. 4, and then by Lashley, 1923 and Roback, 1923), and occurred fairly often, relatively speaking, but apparently only in the twenties and very early thirties. Its formal use by McDougall (1926) in *Psychologies of 1925* may have contributed to *strict behaviorism*'s popularity during this period. Other modifiers for Watsonian or near-Watsonian *behaviorism* or *behaviorists* between 1912 and 1955 included "monistic" (Weiss, 1919, p. 327), "orthodox" (Wieman, 1919, p. 241), "parallelistic" (Kantor, 1921, p. 231), "pure" (Gregory, 1922, p. 586), "ideal" (Weiss, 1924, p. 48), "metaphysical" (Brightman, 1930, p. 309), "negative" (Dotterer, 1933, p. 198), "classical" (Heidbreder, 1933, p. 276), "physiological" (Pepper, 1934, p. 110), and "rigid" (Young, 1943, p. 27). Two further designations were "behaviorist of the severe type" (Young, 1924, p. 292) and "ultra-behaviorists" (Garrison, 1930, p. 163). All of these terms, however, seem to have been used infrequently.

We might point out that so many modifiers were available that authors sometimes switched from one to another, even in the same work. A good example of this is Roback's (1923) use of four different terms: "behaviorism in its extreme form" (p. 138), "orthodox behaviorism" (p. 187), "thoroughgoing behaviorist" (p. 217), and "strict behaviorists" (p. 271).

#### Radical Behaviorism

The first apparent use of *radical behaviorism* in print is, interestingly, largely formal. In the first article of the 1921 volume of the *Psychological Review*,

Calkins compared and contrasted three forms of behaviorism: Warren's "modified behavioristic psychology," Calkins' own "behavioristic self-psychology," and what she called Watson's "radical behaviorism." The crucial feature setting apart Watson from the other two was his position on consciousness: "Extreme behavioristic psychology denies or ignores what are known as mental phenomena" (Calkins, 1921, p. 1; see also p. 4). Calkins, who had earlier spoken of her "radical disagreement with Watson's main thesis" (1913, p. 289), went on to describe Watson as "the most prominent upholder of radically behavioristic psychology" (1921, p. 2), and then introduced the terms *radical behaviorists* (p. 4) and *radical behaviorism* (p. 5). As mentioned, *strict behaviorism* was used once in this article in a footnote (p. 4). Although Calkins did not make consistent use of *radical behaviorism* thereafter (e.g., she did not use it in Calkins, 1930), the term she apparently originated was soon accepted within psychology.<sup>5</sup>

Not surprisingly, most of the other occurrences of *radical behaviorism* during the 1920s<sup>6</sup> were also in the *Psychological*

*Review*, the foremost theoretical journal in psychology then as now. For example, Warren used *radical behaviorist* later in 1921 (p. 463) in a *Psychological Review* article on visual after-effects. He was not replying to Calkins' paper, but it seems possible that he picked up the term from that source, especially since his use is formal.<sup>7</sup> Wheeler (1923) also used the term formally. Koffka (1924, p. 160) and Sellars (1926, p. 315) are worth citing here to illustrate the spread of the term to journals outside of the *Psychological Review* and outside of the country. Finally, Jastrow's (1927) argument against radical behaviorism shows that the original reactions to and descriptions of behaviorism were still very much current. Jastrow spoke of "the tilting by the radical behaviorists against the windmills of consciousness" (p. 173).

In the 1930s, the denial or ignoring of consciousness was still seen as the main feature of radical behaviorism (e.g., Carr, 1930, p. 77; McDougall, 1930, p. 42). Although fewer articles were written concerning Watson during this period, compared to the 1920s (Logue, 1985, p. 178; R. I. Watson, 1976), nearly as many citations using *radical behaviorism* (or its variants) can be listed; thus, perhaps *radical behaviorism* had more clearly become an established formal term. For example, whereas Roback had not used the term in 1923, he did in his second anti-behaviorism book (1937, pp. 150, 152).<sup>8</sup>

<sup>5</sup> The type of enterprise to which *radical behaviorism* refers, however, has not always been clear. In Watson's time, behaviorism (i.e., his radical behaviorism) was considered, singly or in various combinations, a program, science, method, and/or philosophy (see, e.g., Brightman, 1930, p. 309; Burnham & Wheelwright, 1932, p. 328; Calverton, 1924, pp. 422-423; Rall, 1930, pp. 290-291; Woodworth, 1924, p. 260). Watson's own view on this matter was that behaviorism had started out cautiously as method and then become "a true natural science" (J. B. Watson, 1930, p. 19; cf. J. B. Watson, 1927, p. 249). Later, Skinner treated the features separately. For him, "Behaviorism is not the science of human behavior; it is the philosophy of that science" (1974, p. 3; see also 1964, p. 79; but cf. 1979, p. 331).

<sup>6</sup> About a dozen references using the term *radical behaviorism* or its variants were located in our search of the professional literature of the 1920s. This may not seem like very many, but it was more than any comparable term for Watsonian or near-Watsonian views. The search consisted largely of a check of the indexes and tables of contents of the books and journals of the period. Articles and book chapters that appeared relevant because of their titles or authors, as well as text material indexed by "Watson," "behaviorism," etc., were searched thoroughly for the occurrence of *radical behaviorism* or other items

of interest. In addition, where pertinent, entire journal volumes and books were examined. The total search for information on Watsonian radical behaviorism (and also on early Skinnerian radical behaviorism) covered the period 1912-1955; however, because the subject was discussed less frequently over time, the years after the early 1930s were checked less thoroughly.

<sup>7</sup> It is, of course, possible that Warren coined the term independently. If the quick manuscript turnaround time of 1913 (see description of Angell [1913] in the section on *behaviorism*) is any guide, however, Warren, whose article was published in November, might reasonably have seen the Calkins article (January issue) before final changes had been made in his manuscript.

<sup>8</sup> Roback (1937, p. 197) also cites a doctoral dissertation on the history of radical behaviorism (Diehl, 1932—listed by Roback as 1934, under a shorter title).

And Harrell and Harrison (1938) used the term extensively in their comprehensive paper, "The Rise and Fall of Behaviorism"—in which they referred to "the recent demise of radical behaviorism" (p. 381). Indeed, by this time, Watson had been out of psychology for some years, and his behaviorism was virtually moribund.

Correspondingly, few references to Watsonian *radical behaviorism* as such are to be found in the literature of the 1940s and early 1950s (but see, e.g., Griffith's 1943 chapter section, "Radical Behaviorism"). As Watson's version of behaviorism faded, however, B. F. Skinner was in the process of fashioning his own version, based partly on Watson's (Skinner, 1976, pp. 298–301; 1979, pp. 4, 115). He began using the term *radical behaviorism* as well.

### SKINNERIAN RADICAL BEHAVIORISM

[Skinnerian] radical behaviorist philosophy as explicit, extant doctrine can reasonably be timed from Skinner's 1945 paper, "The operational analysis of psychological terms." It was this extraordinary work that put the "radical" in radical behaviorism. (Marr, 1984, p. 356)

In Skinner's 1945 paper mentioned by Marr above, not only did Skinner first discuss philosophical matters in any depth, but he first referred in print to his philosophy as "radical" behaviorism (Skinner, 1945, p. 294)—apparently the first time anyone had done so. In this section, we trace the use of the term for Skinner's views.

As a postgraduate at Harvard in the early 1930s, Skinner was "at work on something called *A Sketch for an Epistemology*" (Skinner, 1979, p. 115). In this *Sketch*, Skinner made a not uncommon distinction between what he called "radical behaviorism" (his own view) and "methodological behaviorism" (see Day, 1983; J. Moore, 1981). Why did Skinner use the term *radical behaviorism* in this manner in the *Sketch*? In response to our inquiry concerning his early usage of the term, Skinner stated, "I don't believe I

invented the phrase 'radical behaviorism.' I think it was in the air at the time" (personal communication, January 31, 1985). Clearly, in the early 1930s, the term was still current for Watson's views, and Skinner had, perhaps, come across it in his contacts with the philosophy and psychology of the time (see Coleman, 1985, for some of these). Further, Skinner's depiction of radical behaviorism is, in some respects, in accord with Watson's philosophical views, as is suggested in the last major section of our paper, as well as in what follows.

In the *Sketch*, methodological behaviorism was described as a position that distinguishes between the scientifically amenable public and the scientifically untreatable private. Many behaviorists since Watson, and even some present-day psychologists who might not call themselves behaviorists, could be considered to be behaviorists of this sort (see Brunswik, 1952, p. 66–67; Day, 1980, p. 241; Leahey, 1984, pp. 131–132; Marx & Hillix, 1979, p. 160). But, as Skinner stated in his autobiography, occasionally quoting from the *Sketch*, "I preferred the position of *radical behaviorism*, in which the existence of subjective entities is denied. I proposed to regard subjective terms 'as verbal constructs, as grammatical traps into which the human race in the development of language has fallen'" (Skinner, 1979, p. 117). This view of subjective terms is similar to one presented by Watson in *Behaviorism* (1930, p. 10).

These points in the *Sketch* are expanded in Skinner's 1945 paper, where his first published use of *radical behaviorism* (p. 294) occurs in connection with another discussion of the distinction between methodological and radical behaviorism. Also reminiscent of topics discussed in the *Sketch*, Skinner (1945) wrote that early behaviorism did not fulfill its potential because "it never finished an acceptable formulation of the 'verbal report.'<sup>9</sup> The conception of behavior which

<sup>9</sup> Both Watson and Skinner acknowledged the potential inaccuracy and unreliability of verbal reports in general (Skinner, 1979, p. 119, quoting from the *Sketch*; J. B. Watson, 1924, p. 42).

[early behaviorism] developed could not convincingly embrace the 'use of subjective terms' " (p. 271). Skinner's paper is largely an analysis of how a verbal community might teach its members to use subjective terms in describing their private events (e.g., toothaches).

Given these correspondences in coverage between the *Sketch* and the 1945 paper, it seems quite possible that Skinner might have used the term *radical behaviorism* in his 1945 paper due to the influence of the *Sketch* on the manuscript that eventually became *Verbal Behavior* (Skinner, 1957), for earlier versions of this latter manuscript were the source for the 1945 paper (Skinner, 1979, p. 294; 1983, p. 395). Two other possible influences on Skinner's choice of term in 1945 can also be provided. First, in *The Behavior of Organisms*, Skinner cited (1938, p. 35) a paper that used the term *radical behavioristic psychology* (Kantor, 1933, p. 330). And second, Pratt (1945, p. 263) mentioned "radical behaviorists" (probably Watsonian, but his use is ambiguous) in his paper for the same special issue of the *Psychological Review* on operationism for which Skinner's paper was written. The contributors' papers were circulated prior to publication so that follow-up comments could be included (Langfeld, 1945, p. 241; Skinner, 1979, p. 295). Skinner thus had an opportunity to see Pratt's paper, and we might note that Skinner used the term *radical behaviorism* only in his follow-up section.<sup>10</sup>

As we have seen, not only did Skinner first refer in print in 1945 to his philosophy as radical behaviorism, but he also described one of the most important and unique features of that philosophy for the first time—its treatment of private events (Day, 1983, p. 94; Marr, 1984, p. 356; Michael, 1985, p. 117). Skinner's treatments of the related areas of conscious-

ness, verbal behavior, and private events were elaborated on in more detail in 1953 and then in *Verbal Behavior* (1957), where he used the term *radical behaviorism* for the second time (p. 459). Later, he used the term in further discussion of philosophical matters, including problems concerning private events and consciousness, in his important paper, "Behaviorism at Fifty" (1963, p. 951; or see 1964, p. 80; see also p. 106).<sup>11</sup>

Returning to the general chronology of usage, from about 1940 to about 1960, *radical behaviorism* was being used infrequently by others to refer to Watson, as we have seen, or to Skinner. Skinnerian psychology, itself, was typically given other labels during this period,<sup>12</sup> one of the most common of which was *descriptive behaviorism* (esp. Hilgard, 1948, p. 116;<sup>13</sup> also, e.g., Marx, 1951, p. 439; Munn, 1950, p. 364; Stolurow, 1953, p. 77). "Descriptive" stuck for some time, though Skinner did not use it (and even Hilgard did not use it in the second edition [1956] of the influential *Theories of Learning*). According to Skinner, "'Descriptive behaviorism' is too close to mere structuralism. We are dealing with functional relations. They are not carried by 'radical behaviorism,' either but no contrary suggestion is made" (personal communication, March 4, 1986).<sup>14</sup> In any event, from the mid-1960s on, use of the term *radical behaviorism* for Skinner's views began to take hold within psy-

<sup>11</sup> Bibliographies by Epstein (1982) and Knapp (1974) were used in conducting the search of Skinner's works.

<sup>12</sup> See, however, Scriven (1956, p. 88), who used *radical behaviorism* with reference to Skinner's views on private events.

<sup>13</sup> Hilgard states that: "[Skinner] prefers a straight descriptive account of what is found in experiments. It is because of this preference that his system has been referred to in the title of this chapter as a descriptive behaviorism. It might have been called equally well a positivistic behaviorism" (1948, p. 135).

<sup>14</sup> Skinner has also had some doubts about the term *behaviorism*, due to its connection with the denial of genetic differences falsely attributed to Watson (Skinner, 1979, p. 331; cf. R. I. Evans, 1968/1981, p. 24).

<sup>10</sup> The term *radical operationists* was used in one of the questions on operationism that were circulated to the contributors beforehand in order to focus their discussions (Langfeld, 1945, p. 242). Radical operationists were said to equate the meaning of a quantitative concept with the operations used to define the concept.



chology.<sup>15</sup> In 1973, for example, Keller noted that Skinner's system "has been called *descriptive behaviorism* or, more recently, *radical behaviorism*" (p. 133).

In the 1970s and 1980s, a review of behavioral journals (e.g., *Behaviorism*, *The Behavior Analyst*, and *Journal of the Experimental Analysis of Behavior*) shows that *radical behaviorism* is the commonly accepted designation for Skinner's philosophical views among behaviorists (see Footnote 5 on the term's referent). The term has also been used in the same sense, but to a lesser extent, in the general psychological and philosophical literature (e.g., Fodor, 1981, pp. 114–116; Kaufman, 1967, p. 272; Mackintosh, 1983, p. 56).

#### FROM WATSON TO SKINNER

*[Skinnerian] radical behaviorism is the direct intellectual heir of classical Watsonian behaviorism.* (Hillner, 1984, p. 168; see also Buss, 1979, p. 12; Leahey, 1984, p. 132; Wolman, 1981, p. 137)

To whatever extent the quotation above is true, it is fitting that, after Watson, Skinner should "inherit" the title of *radical behaviorist* and become its chief proponent. Although their philosophical and scientific perspectives differ in important ways (see Leahey, 1980, chaps. 10, 11, 12; Marx & Hillix, 1979, chaps. 6, 10; Skinner, 1974, e.g., pp. 244–245), the use of the same term to describe both views may not be entirely inappropriate: Both Watson and Skinner have promoted behaviorism as a natural science of psychology, one common aspect of which is worth pointing out in particular. We focus here on a major defining feature of both Weltanschauungs: their treatment of consciousness. This feature may link the two views historically, philosophically, and etymologically.

<sup>15</sup> The term first appeared as an index item of the *Psychological Abstracts* in 1964, in reference to Skinner. Its appearance, however, often seems to depend on its occurrence in a work's title. For instance, a 1958 use of "behavior, radical" as an index item referred to an article on Skinnerian radical behaviorism which, like the 1964 paper, used the term in its title.

Just as Skinner made a distinction between methodological and radical behaviorism, Lashley (1923) had earlier presented an incisive account of behavioristic views of consciousness (that Watson praised in 1924, p. viii) contrasting "methodological behaviorism" (a very early use of this term) and "strict behaviorism" (equivalent to Watsonian radical behaviorism).<sup>16</sup> For methodological behaviorism, Lashley wrote, "Facts of conscious experience exist but are unsuited to any form of scientific treatment. This is the most common formulation of the behaviorist's position. It seems to have been Watson's view in his earlier writings" (p. 238). As Lashley noted, however, methodological behaviorism's account of consciousness had some potential drawbacks, one of the most prominent of which was that "as long as [the behaviorist] admits the existence of a universe of consciousness he lays open to attack his major premise, that behaviorism can account for all human activities" (p. 240). Lashley stated, "Watson seems now to have abandoned this position for the more extreme one" (p. 239), that is, strict behaviorism, in which

the supposedly unique facts of consciousness do not exist. An account of the behavior of the physiological organism leaves no residue of pure psychics. Mind is behavior and nothing else. This view is implied in much of Watson's writing, although it is not stated in so many words. . . . This is the extreme behavioristic view. It makes no concessions to dualistic psychology and affirms the continuity in data and method of the physical, biological, and psychological sciences. "Consciousness is behavior." (p. 240)

Most historians agree that Watson became, at some point, a "strict behaviorist" in Lashley's sense (e.g., Harrell & Harrison, 1938, pp. 374–375; Leahey, 1984, p. 131; Marx & Hillix, 1979, p. 138), and that he proposed naturalistic processes to explain the phenomena described as "conscious" (e.g., subvocal

<sup>16</sup> Indeed, Skinner made 4–5 pages of notes from this article (including its continuation later in 1923), probably during 1928–1929 (personal communication, S. R. Coleman, September 4, 1986; the notes are now most likely in the Harvard University Archives).

thought, as in J. B. Watson, 1930, chaps. 10, 11; see also Lashley, 1923, pp. 244–245). These views resemble Skinner's in some ways, although, again, the details of the two theories are very different (e.g., we leave discussion of issues such as intersubjective verifiability to others).

As for Skinner's position on consciousness, his own writings are the best source (e.g., Skinner, 1957, chaps. 5, 19; 1964; 1974, chaps. 1, 2, 14; 1980, p. 201). The following can serve as a brief summary of his views, in which we see some similarities to Watson's views.<sup>17</sup>

What one observes and talks about is always the 'real' or 'physical' world (or at least the 'one' world) and . . . 'experience' is a derived construct to be understood only through an analysis of verbal (not, of course, merely vocal) processes. (Skinner, 1945, p. 293)

A science of behavior must consider the place of private stimuli as physical things, and in doing so it provides an alternative account of mental life. The question, then is this: What is inside the skin, and how do we know about it? The answer is, I believe, the heart of radical behaviorism. (Skinner, 1974, p. 233)

Ironically, however, radical behaviorists could deal with descriptions of private events, with the provision that the descriptions were inaccurate and perhaps never to be trusted, and that the events described were physical. (Skinner, 1979, p. 295)

I had heard it said that my 1945 paper on how we learn to talk about private events had brought sensations back into behaviorism, but I was not preserving consciousness in any form. (Skinner, 1983, p. 279)

Zuriff (1984) provides further perspective: "What distinguishes Skinner from . . . other behaviorists is not his legitimization of private events but the fact that he provides the most coherent account of how these events come to function as stimuli for verbal behavior" (p. 572). In any case, to whatever extent that Skinner's and Watson's later positions on consciousness share some points of similarity, they have been distinguished, at least, from methodological behaviorism.

<sup>17</sup> We also see in these quotations some of Skinner's views on materialism (which are not unequivocal—see, e.g., 1964, p. 79; 1969, p. 248; 1979, p. 117; for commentary, see Marr, 1985, p. 134; J. Moore, 1985, p. 59).

## CONCLUSION

Currently, *radical behaviorism* is the established formal designation for B. F. Skinner's philosophy of the science of behavior. The term, however, originated in reference to the views of John B. Watson, most likely because Watson's metaphysical position on controversial matters such as the nature of consciousness was considered extreme and iconoclastic. In becoming a formal term, *radical behaviorism* lost many of the negative connotations of those two descriptors, so that today the term carries a generally more neutral meaning (or in some cases more positive; see, e.g., Michael, 1985, pp. 100–101 on "radical" meaning "thoroughgoing").

Although Watson himself never seemed to have used the term, Skinner was apparently the first to apply "radical" to his own behaviorism, perhaps simply as an accepted and appropriate formal term for views bearing some resemblance to his own. In particular, Skinner shares with Watson the view that consciousness is a nonexistent entity, but that the events labeled "conscious" are, in principle, amenable to scientific analysis. This latter feature of Watson's and Skinner's views—"radical" or not—can be considered important in setting their respective radical behaviorisms apart from methodological behaviorism.

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