SKINNER: FROM ESSENTIALIST TO SELECTIONIST MEANING

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ABSTRACT. Skinner has been criticized for advancing essentialist interpretations of meaning in which meaning is treated as the property of a word or a grammatical form. Such a practice is consistent with a "words and things" view that sought to advance an ideal language as well as with S-R views that presented meaning as the property of a word form. These views imply an essentialist theory of meaning that would be consistent with Skinner's early S-R behaviorism. However, Skinner's more developed account of meaning is based on his later selectionist behaviorism, and this account of meaning is aligned in many respects with the views of Darwin, Peirce, F. C. S. Schiller, Dewey, and Wittgenstein. After adopting a selectionist theory of meaning, it was inconsistent for Skinner to maintain essentialist practices although Skinner did so in response to influences that had little to do with his selectionist theory. Skinner's particular contribution to this pragmatic-selectionist tradition of meaning is the integration of meaning within his three-term contingency for operant behavior. In this account, meaning lies in the probabilistic functional relations of verbal behavior rather than in its form.
Key words: evolution, meaning, natural selection, pragmatism, selection by consequences, Skinner.

Skinner showed an early receptivity to authors who gave essentialist interpretations in which meaning was treated as the property of a word form (especially Bacon, 1620/1960, pp. 56-57, and Russell, 1926, p. 119; also cf. Tooke, 1786-1805/1840, p. 496); and Skinner has been criticized for giving similar interpretations (e. g. Harzem & Miles, 1978, pp. 56-58; Midgley, 1978, pp. 109-110; Moxley, 1992, pp. 1307-1308; Wright, 1976, pp. 88-90). These criticisms are not surprising in that essentialist interpretations have been discredited in general (e. g., Robinson, 1950, pp. 153-156; Schiappa, 1993; Wittgenstein, 1958, pp. 2-4). Later, Skinner (1957) explicitly rejected the essentialist features of a Watson-Russell theory of meaning and addressed the meaning of verbal behavior in terms of the probabilistic contingencies for operant behavior. Skinner, however, continued to apply essentialist interpretations to words in the vernacular—particularly as used by others. This conflict between his selectionist theory and his essentialist practices presents a challenge for the reader in that it is impossible to accurately infer Skinner's selectionist theory of meaning from examples of his essentialist practices; and any attempt to find a common ground that integrates these two approaches into one approach is likely to produce a confused account of meaning. The following seeks to clarify this situation by presenting Skinner's theory and practices against the background of the views of meaning to which he may have been and was exposed; by showing the way in which Skinner maintained essentialist practices after moving

to a selectionist theory of meaning, and by suggesting that Skinner's essentialist rules for meaning and his selectionist descriptions for meaning were under quite different contingencies. In doing so, distinctions between a mechanistic S-R account of meaning and a selectionist operant account will be delineated.

Roughly, essentialist meanings are claims that the meaning of a word is the property of a word wherever and whenever that word occurs. In other words, if you encounter a particular word, you will always know its meaning if you had previously known its meaning elsewhere because that meaning is a property of that word form and never changes. The context in which the word occurs is irrelevant. It is not needed for the meaning and will not change the meaning. Essentialist meaning is determined by the form or topography of a word and not by its function. In contrast, selectionist meanings are the result of a functional analysis for a word in context. The context, or the use of a word in context, determines the meaning of a word. Over time words acquire histories of uses in contexts, and some of these histories may be summarized in an approximate guideline or definition; but the context in specific instances always determines the ways in which different meanings arise. Like any other operant behavior, the meaning of a word lies in the contingencies of its use.

This distinction between essentialist and selectionist meanings may be clearer if an example of behavior other than producing words is considered. Instead of the topography of a word, consider the topography of a fist. An essentialist account of meaning would have the same meaning for fist whenever you see a fist; e. g., seeing a fist means the maker of the fist is hitting, or threatening to hit, another human being. In contrast, a selectionist account of meaning requires an analysis of the contingencies for making a fist and finds different meanings in different contingencies; for example, a fist may hold a piece of candy or a key and may function to conceal or secure; a fist may also be used to rub a tearful eye, knock on a door, or support a chin. These uses do not imply aggression. In a selectionist account of behavior, the functional relations of the behavior to its context—not the topography of the behavior—determines the meaning of that behavior. The same analysis applies to words.

Background for an Essentialist Theory of Meaning

Bacon and Russell were two of the most influential sources that Skinner identified for his views, and it is evident that he read at least some of their views on words and meaning. Bacon (1620/1960) treated meaning as the property of a word form, saying that "the notion of *chalk* and *mud* is good, of *earth* bad" (*New Organon*, bk. I, Aphorism LX, p. 58). Bacon also believed the words of the vernacular interfered with an understanding of the true divisions of nature (*New Organon*, bk. I, Aphorism LIX, p. 56). In addition, Bacon (cf. c. 1602/1996, p. 108; 1620/1960, pp. 129 & 152) assumed these divisions can be unambiguously identified by correct terms and may have inspired work toward ideal languages that would reflect these divisions (Singer, 1989). Skinner (1976/1977, p. 128) said he became a "Baconian" in the eighth grade and later characterized himself as "thoroughly Baconian" (1983/1984, p. 406).

Russell (1919), another important early influence on Skinner, advanced an essentialist view of meaning and aligned his views with Watson's behaviorism:

> If we take some such word as "Socrates" or "dog," the meaning of the word consists in some relation to an object or set of objects. . . the causes and effects of the occurrence of a word will be connected, in some way to be further defined, with the object which is its meaning. To take an unusually crude instance: You see John, and you say, "Hullo, John"—this gives the *cause* of the word; you call "John," and John appears at the door—this gives the *effect* of the word. Thus in this case, John is both cause and effect of the word "John.". . . This view of language has been advocated, more or less tentatively, by Watson in his book on *Behaviour* [*Behavior: An Introduction to Comparative Psychology*, 1914/1967]. (pp. 7-8)

With a necessary cause and effect connection between word and object, meaning was a property of a word, just as a response was a property of a stimulus. In *The Analysis of Mind*, Russell (1921, p. 6) thanked Watson for valuable suggestions on the manuscript. In turn, Watson's (1922, p. 9) review of *The Analysis of Mind* was highly complimentary of Russell. Later, in reviewing *The Meaning of Meaning* by Ogden and Richards, Russell (1926) noted, "It will be seen that the above remarks [Russell's] are strongly influenced by Dr. Watson, whose latest book, Behaviorism, I consider massively impressive" (p. 121). Although Russell (e. g., in his acceptance of imagery) departed from Watson in some respects, much of Russell's views on meaning can be seen to follow Watson's S-R behaviorism. Russell's (1926) review of *The Meaning of Meaning* was largely an expansion on his own theory of meaning in *The Analysis of Mind* (1921), and the effect of that review on Skinner was substantial. According to Skinner (1979/1984), "After reading the review, I bought [Watson's] *Behaviorism* and, a year or so later, Russell's *Philosophy*" (p. 10). Skinner (1983/1984, p. 395) not only credited Russell with enticing him to his (Skinner's) first love—epistemology—but also said he "had been converted to the behavioristic position by Bertrand Russell" (1979/1984, p. 10). Thus, Skinner was persuaded to enter behaviorism after reading an essentialist view of meaning adapted by Russell from Watson.

An Ideal Language is Possible and Desirable

Russell's "words and objects" view of meaning had a direct precedent in proposals for a language that "mirrors the true nature of things, thus being instrumental in the progress of knowledge" (Dascal, 1982, p. 103), which arose with the development of the mechanistic philosophy in the 16th and 17th centuries (Knowlson, 1975; Slaughter, 1982). Descartes, Peiresc, Gassendi, Mersenne, Comenius, Newton, Boyle, Wilkins, Ward, Petty, Wallis, Ray, Willoughby, Kircher, and Leibniz, many of whom were mathematicians, all gave serious consideration to proposals for an ideal or universal language (Knowlson, 1975, pp. 9, 22, 37). The interest in mechanistic philosophy and ideal/universal languages shared a common attraction in framing a perfectly clear map of the universe where everything can be visualized in fixed, necessary relationships (cf. Cornford, 1912/1991, pp. 142, 186-187, 248-249). A universal language promised a clear knowledge of all reality and a

perfect understanding among all human beings, powerful incentives if such a language could be produced.

Projects for a universal language, however, were not unopposed. Locke (1689/1979, 3.11.2, p. 509 and 3.3.17, p. 418) was critical of them, and Swift (1726/1967, pp. 230-231) ridiculed them. A direct source for Swift's parody may well have been Thomas Sprat's (1667/1958) interpretation of the "plain style" advocated by the Royal Society (Francus, 1994, pp. 24-25). Sprat, one of the first members of the Royal Society, wanted a review of all the words in English to identify the "ill" words, correct those to be retained, and establish those words that are good. One objective was to eliminate extravagant rhetorical ornamentation:

> They [the Royal Society] have therefore been most rigorous in putting in execution, the only Remedy, that can be found for this extravagance: and that has been, a constant Resolution, to reject all the amplifications, digressions, and swellings of style: to return back to the primitive purity, and shortness, when men deliver'd so many *things*, almost in an equal number of *words*. (p. 113)

It was this means—"primitive purity, and shortness, when men deliver'd so many *things*, almost in equal number of *words*"—that Swift (1726/1967; also cf. Francus, 1994, p. 26) ridiculed in proposing to omit words altogether and use only things: "For short conversations a man may carry implements in his pockets and under his arms, and in his house he cannot be at a loss" because it "is full of all *things* ready at hand, to furnish matter for this kind of artificial conversation" (Swift, 1726/1967, p. 231).

Curiously, Watson (1924/1970) interpreted Swift's parody as a testament to the underlying reality of the connection between words and objects:

> The words function in the matter of calling out responses *exactly* [emphasis added] as did the objects for which the words serve as substitutes. Wasn't it Dean Swift who had one of his characters who couldn't or wouldn't speak carry around in a bag all the objects of common use so that instead of having to say words to influence the behavior of others, he pulled out the actual object from his bag and showed it? The world would be in this situation today if we did not have this *equivalence for reaction* [emphasis in original] between objects and words. (p. 233)

Watson used this words-and-objects approach in explaining some popular terms; for example, "being conscious is merely a popular or literary phrase descriptive of the act of *naming our universe of objects both inside and outside*" [emphasis in original] (p. 265).

More recently, similarities can be found between proposals for ideal/universal languages and the semantic theories of some linguists (e. g., Chomsky, 1987, p. 421, 1988, p. 191; Harris, 1951/1960, p. 190; Katz, 1971, p. 299) who see meanings as the product of innate rules for governing innate elements of meaning. Katz (1971, p. 299), for example, treats a word as having atomic elements of meaning that are bound as in a chemical compound; for example, the meaning of *bachelor* was analyzed as having a structure that was analogous to the molecular formula for *ethyl alcohol*.

Russell's accounts of an ideal language shared some of these formal features. In describing such a language, Russell (1918) said:

> In a logically perfect language, there will be one word and no more for every simple object, and everything that is not simple will be expressed by a combination of words, by a combination derived, of course, from the words for the simple things that enter in, one word for each simple component. A language of that sort will be completely analytic, and will show at a glance the logical structure of the facts asserted or denied. (p. 520; also cf. Russell, 1927/1970, pp. 267-268)

In his approving preface to the early Wittgenstein's (1922/1981) *Tractatus Philosophicus*, Russell (1922/1981) presented an ideal language as a model for emulation, saying

> A logically perfect language has rules of syntax which prevent nonsense, and has single symbols which always have a definite and unique meaning.…the whole function of language is to have meaning, and it only fulfills this function in proportion as it approaches to the ideal language which we postulate…In order that a certain sentence should assert a certain fact there must, however the language may be constructed, be something in common between the structure of the sentence and the structure of the fact. This is perhaps the most fundamental thesis of Mr. Wittgenstein's theory. (p. 8)

This common structure or picture theory of language and the world would advance Russell's ideal language and his philosophy of logical atomism, and logical positivists with similar views would draw upon the *Tractatus* (see Smith,1986, for distinctions between behaviorism and logical positivism; and see Skinner, 1987/1989c, for his comments on Smith's distinctions).

Illustrations of what an ideal language would be like occur throughout the *Tractatus*; for example, "The name means the object. The object is its meaning. ('A' is the same sign as 'A.')" (p. 47). But the most famous quote from Ogden's translation is, "What can be said at all can be said clearly; and whereof one cannot speak thereof one must be silent" (p. 27). It appeared that Wittgenstein thought he had clearly provided the criteria for an ideal language:

> The *truth* [emphasis in original] of the thoughts communicated here seems to me unassailable and definitive. I am, therefore, of the opinion that the problems have in essentials been finally solved. And if I am not mistaken in this, then the value of this work secondly consists in the fact that it shows how little has been done when these problems have been solved. (p. 29)

Although the reference to "how little has been done" is less commonly quoted, it is perhaps more indicative of Wittgenstein's subsequent change in direction for his future work.

For a time, Russell wanted to extend one-word-one-object relations to ordinary language. The pragmatist F. C. S. Schiller (1939/1979) referred to a conversation in which Russell proposed "there should be distinctive words enough for every situation!" (p. 343). Schiller replied that "a language freed from 'vagueness' would be composed entirely for nonce-words, *hapex legomena*, and almost wholly unintelligible. When I pointed out this consequence, Russell cheerfully accepted it, and I retired from the fray." (p. 343). As Schiller saw it, many logicians (such as Russell) were attracted to the notion that "meaning can be fixed and embodied in unvarying symbols" (p. 344), but such a notion was a fiction even in mathematics:

"Can exactness be said to inhere in the symbols used by mathematics? Hardly. + and -, and even =, have many uses and therefore senses, even in the exactest mathematics" (p. 141). In Schiller's view, logicians "may have been mistaking for a flaw the most convenient property of words, namely, their plasticity and capacity for repeated use as vehicles of many meanings" (p. 343).

Perhaps influenced by Schiller, Russell (1918) said he did not think ordinary language could or should be reformed completely in the way a logician might prefer:

> The whole question of the meaning of words is very full of complexities and ambiguities in ordinary language. When one person uses a word, he does not mean by it the same thing as another person means by it. I have often heard it said that that is a misfortune. That is a mistake. It would be absolutely fatal if people meant the same things by their words. It would make all intercourse impossible. . . . If you were to insist on language which was unambiguous, you would be unable to tell people at home what you had seen in foreign parts. It would be altogether incredibly inconvenient to have an unambiguous language, and therefore mercifully we have not got one. (pp. 517-518)

However, the extent to which Russell thought ordinary language had or should have the features of an ideal logical language remains an open question (cf. Sainsbury, 1979, p. 14).

Russell's partiality toward a logical language often intruded on his statements about ordinary language. In commenting on the use of *hear*, Russell (1927/1970) said:

> "Can you hear what I say?" we ask, and the person addressed says "yes." This is of course a delusion, a part of the naïve realism of our unreflective outlook on the world. We never hear what is said; we hear something having a complicated causal connection with what is said. (p. 48)

The claim that we never *hear* what is said makes sense only if Russell is giving a meaning to *hear* that is quite different from its common use in the vernacular. Russell is also implying that his sense of the term is the proper or true meaning and that people who accept *hear* as appropriate are simply deluded.

Meaning is a Property of a Word

Although Russell stopped short of recommending the replacement of ordinary language with an ideal logical language, he apparently believed that ordinary language could be treated as though it had essential meanings which were the property of word forms. In the review that Skinner read, Russell (1926) explicitly stated that "meaning in general should be treated . . . as a property of words considered as physical phenomena" (p. 119). In *An Outline of Philosophy*, Russell put the causal relations of meaning in the terms of S-R reflexology. For the listener, Russell (1927/1970) said:

> The law of conditioned reflexes is subject to ascertainable limitations, but within its limits it supplies what is wanted to explain the understanding of words. The child becomes excited when he sees the bottle; this is already a conditioned reflex, due to experience that this sight precedes a meal. One further stage in conditioning makes the

> child grow excited when he hears the word "bottle." He is then said to "understand" the word. (p. 52)

For the speaker, Russell said:

> The reaction of a person who knows how to speak, when he notices a cat, is naturally to utter the word "cat"; he may not actually do so, but he will have a reaction leading towards this act, even if for some reason the overt act does not take place. It is true that he may utter the word "cat" because he is "thinking" about a cat, not actually seeing one. This, however, as we shall see in a moment, is merely one further stage in the process of conditioning. (p. 54)

These connections, in which meaning is the property of a word, occurred in the framework of stimulus-response relations and their assumed if-then causality.

Skinner's Essentialist Practices

In an early note, Skinner (1979/1984) considered meaning as essence: "If all thought can be attributed to processes of perception and reflex, 'meaning' in all its wider sense may prove to be an expanded aspect of '*essence*' [emphasis added]" (p. 353). Later, Skinner (1938) presented examples of words—to be rejected or retained—whose meaning was a property of the word form:

> The sole criterion for the rejection of a popular term is the implication of a system or of a formulation extending beyond immediate observations. We may freely retain all terms which are descriptive of behavior without systematic implications. Thus, the term 'try' must be rejected because it implies the relation of a given sample of behavior to past or future events; but the term 'walk' may be retained because it does not. The term 'see' must be rejected but 'look toward' may be retained, because 'see' implies more than turning the eyes toward a source of stimulation or more than the simple reception of stimuli. (pp. 7-8; also cf. Skinner's 1935/1972, pp. 474-475, recommendations for technical terms).

Skinner's position is doubly problematic here. He is saying in effect that the word forms at issue have essential meanings in that certain words, regardless of context, imply or do not imply conceptual schemes (i.e., implicate or do not implicate a context for their use). He is also saying that the conceptual schemes are problematic because they are an essential property of the word. Midgley (1978) took Skinner to task on the issue of context-free meanings for some words:

> How could one be said to walk without any implication of earlier and later walking? We see a figure in a certain posture and say "he is walking." This is to class him as someone who can walk (so that, for instance, if he later excuses himself from other walking on grounds of incapacity, he is lying), and it is to place him as going from A to B. (If we later find that in fact he was simply posing for a statue called "walker," we shall say we made a mistake.) Thus we are relating his behavior to past and future events. In the same way, "look toward" is no better than "see." It has implications about the past and future in that you cannot look anywhere if you have not for some time had eyes, and it is not very intelligible to say you do so if you do not want to see something. (pp. 109-110)

Midgley is making the point that the meaning of words depends on the contexts in which they occur and that the routine use of words in the vernacular is naturally theory laden (cf. Hanson, 1955).

Skinner (1971, p. 8) continued to exercise his claim that certain words implied a problematic conceptual scheme while others did not in saying that other people's use of the term *personality* (or *personalities*) implied an indwelling agent within the tradition of inner homunculi and explanation by personification. Skinner, however, found that the term *self* (or *selves*), which he used, was free of such a conceptual scheme and used the term in an approving way to imply "a repertoire of behavior appropriate to a given set of contingencies" (p. 199); but Skinner gave no example and no explanation as to how people who use *personality* automatically imply an indwelling agent when they do so and people who use *self* do not.

Skinner also implied that what others said could be interpreted on the basis of grammatical forms. In posing an example of what others might say of the causal relation between a spider and its web, Skinner (1953) implied that grammatical forms, such as tense forms, had an inherent meaning regardless of the context:

> A spider does not possess the elaborate behavioral repertoire with which it constructs a web because that web will enable it to capture the food it needs to survive. It possesses this behavior because similar behavior on the part of spiders in the past has enabled *them* to capture the food *they* needed to survive. A series of events have been relevant to the behavior of web-making in its earlier evolutionary history. We are wrong in saying that we observe the "purpose" of the web when we observe similar events in the life of the individual. (p. 90)

Skinner appears to assume that if someone says, "A spider possesses . . ." then an individual spider must be referred to by that someone else (as indicated by the singular grammatical concordance of "a" with "spider"). In other words, the word "a" has the property of restricting meaning to a singular instance or individual. Skinner also appears to assume that the failure to use a verb in the past tense implies that past events are not relevant. In other words, the present tense form has the property of restricting meaning to present, and only present, events. On the basis of these grammatical forms (no other basis is evident), Skinner implies that these words must refer to a causality (the first *because*) that is limited to the current state of an individual spider (and perhaps a suggestion of backward causation) rather than to a causality (the second *because*) that refers to the selectionist evolution of the species. Taking exception to these inferences for the first *because*, Wright (1976) said:

> When we say 'the spider (or, a spider) possesses the ability to spin a web because that allows it to catch food,' 'the' and 'a' are seldom used to refer to a specific individual, and 'that' *never* does. 'The spider' is usually equivalent to 'spiders' (like, 'the American farmer') and 'that' invariably refers to a property (e. g., an ability or propensity) of a certain type of thing, and logically cannot be limited to a specific instance of the type. . . .
>
> The second aspect of Skinner's objection is a worry about verb tenses. . . . Use of the past tense in [Skinner's] way blurs the distinction between functional and vestigial organs, which is worth some pains to avoid in this context. Both kidneys and appendixes are there because of the function they had in the past; only kidneys are there because they do what they do, which is to say only kidneys (still) have a function. In general, when we explain something by appeal to a causal principle, the

> tense of the operative verb is determined by whether or not the principle itself holds at the time the explanation is given. Whether the causally relevant events are current or past is irrelevant. To put it any *other* way would be misleading. (pp. 88-89)

As a result, "We are simply not misled in the way Skinner expects us to be" (Wright, 1976, p. 90). In other words, people are not normally controlled by the inherent properties Skinner attributed to the word forms that people use.

Skinner (1984/1988) continued to attribute essentialist meaning to a grammatical feature in claiming that those who use verbs such as "sees, hears, learns, loves, thirsts, and so on" (p. 369) imply their subjects are controlling agents. But how does saying "a person sees" put the "person" in the role of a controlling agent any more than saying "a person feels pain" or "the rocks show erosion" puts the person in control of the pain or the rocks in control of the erosion? Grammatical agency does not entail empirical control and a grammatical analysis is not equivalent to an analysis of contingencies.

An aggressive function in Skinner's attribution of essentialist meanings becomes more apparent in *Beyond Freedom and Dignity*, where Skinner (1971) implicated *freedom*, *dignity*, *credit*, and *blame* in the problematic conceptual scheme of inner agents and attacked his critics among others who used such words. In particular, Skinner's long-standing treatment of the word *freedom* was one of the most curious of all his attributions and reveals some of the rhetorical influences that controlled his attributions of essentialist meanings. In *Walden Two* Skinner presented two uses, or two senses, of *freedom*. One sense was not problematic. Frazier—one of Skinner's (1967/1982, p. 26) self-acknowledged alter egos in *Walden Two*, the other being Burris—defined freedom in the usual sense of freedom that has to do with feelings and control by force:

> "The question of freedom arises when there is restraint—either physical or psychological. . . . It's not control that's lacking when one 'feels free,' but the objectionable control of force. . . . [Walden Two] is the freest place on earth. And it is free precisely because we make no use of force or the threat of force. . . . By skillful planning, by a wise choice of techniques we *increase* [emphasis in original] the feeling of freedom.
> "It's not planning which infringes upon freedom but planning which uses force." (Skinner, 1948/1962, pp. 262-263)

In addition, Frazier considered the conflict between predestination and freedom as pseudo questions of linguistic origin:

> Doesn't [Castle] know he's merely raising the old question of predestination and free will? All that happens is contained in an original plan, yet at every stage the individual seems to be making choices and determining the outcome. The same is true of Walden Two. Our members are practically always doing what they want to do—what they 'choose' to do—but we see to it that they will want to do precisely the things which are best for themselves and the community. Their behavior is determined yet they are free.
> Dictatorship and freedom—predestination and free will. . . . What are these but pseudo questions of linguistic origin? (pp. 296-297)

Skinner (1974) reaffirmed the usual sense of freedom, "'Freedom' usually means the absence of restraint or coercion" (p. 54). There is no conflict here between freedom and predestination or determinism. According to this line of argument from Frazier, there may be the illusion of a conflict between freedom and determinism, but there is no fundamental conflict. When we further consider Skinner's long-standing criticisms of punishment and the claim that Walden Two "is the freest place on earth," it would have been consistent for Frazier (and Skinner) to advance Walden Two and behavior analysis as champions of freedom.

Nevertheless, Frazier presented another meaning for *freedom* that was in direct conflict with *determinism* and denied that freedom existed:

> "I deny that freedom exists at all. I must deny it—or my program would be absurd. You can't have a science about a subject matter which hops capriciously about. Perhaps we can never prove that man isn't free; it's an assumption. But the increasing success of a science of behavior makes it more and more plausible." (Skinner, 1948/1962, p. 257)

Frazier claims that he must deny freedom exists because a science of behavior and freedom of behavior are in direct conflict. Even if Frazier is saying that a science of behavior implies a scientific determinism that rejects one sense of freedom, this is a curious statement in light of the arguments Frazier has given that freedom is not in conflict with predestination.

The one view, the more common usage of freedom, is non-controversial. The other view of freedom, which is more of a metaphysical issue in some theologies and philosophies, is controversial but provides a point of attack in support of a belief in metaphysical determinism. The metaphysical sense of freedom is the one that Skinner chose to attribute to his critics and to attack them for using the word *freedom*. What is particularly curious here is that Frazier presents two distinct senses of freedom, a more common one and a less common one. Then he chooses the less common one as the one that is always meant when the term is used by his opponents. This cannot be the outcome of a consistent behavior analysis for the meaning of a word. It is the outcome for someone on the attack who would overwhelm those who questioned the power of a behavior analysis supported by determinism. In other words, Frazier (and Skinner's) decision to attack *freedom* appears to be based on rhetoric, the rhetoric of aggression, rather than a behavioral analysis for the use of a word.

In another revealing attribution, Skinner assigned an essential meaning to a word used by a critic while retaining his own right to use the same word in a different sense. Skinner (1984/1988) said of a critic's statement about rules extracted from the contingencies of reinforcement: "It is a mistake to say 'extracted from' since the rules are not in the contingencies. They are descriptions of contingencies" (p. 265). Yet Skinner (e. g., 1969) himself often talked about rules as "extracted from" contingencies: "Rules can be extracted from the reinforcing contingencies" (p. 124; also see 1966, p. 29; 1969, p. 39; 1971, p. 95; 1980, pp. 85 and 275; 1985/1987, p. 107). Note that Skinner accepts his own use of this phrase both before and after he criticizes his critic's use of the same phrase. Although Skinner presumably considered his own usage of "extracted from" a reasonable metaphorical extension,

he attributed an erroneous meaning to his critic without any evident analysis of relevant contingencies for doing so. If Skinner had simply said it would be a mistake to interpret "extracted from" as meaning the rules are in the contingencies, this would have been accurate but less forceful—the critic would not necessarily have been accused of making a mistake. By implying the very word forms "extracted from" have a problematic essential meaning in the critic's use, Skinner brands his critic with a foolish mistake. Skinner's primary objective here is to show up his adversary.

As illustrated in the above examples, Skinner could use the attribution of essentialist meanings to discredit the views of those he attacked; and Skinner liked to adopt the rhetorical stance of an attacker. By his own admission, Skinner (1983/1984) acknowledged, "I have been aggressive (and have almost always regretted it)" (p. 404). By *aggressive*, Skinner meant he had been derisive, saying he had written a review of a paper "to make a fool of the author" (p. 404); and, referring to an earlier note he had written, Skinner, (1983/1984), indicated he found this practice useful:

> This morning I am "motivated" again. I am attacking philosophy, theology, cheap poetry, nonsense, and mentalism (glorified at the end-all of the evolution of man). My reading has given me an audience, an adversary to be answered or shown up. Not a pretty thought but a useful one. . . . An audience and a competitive motive have made a difference in the availability of my verbal behavior. (p. 405)

Skinner found it useful to direct his writing against an adversary because it made writing easier. Although Skinner considered some of this behavior to be "childish and damaging," he noted he "was not always 'watching it' effectively" (p. 404). Even late in his career, Skinner (1988; 1990) spoke of interbehaviorists as "The Cuckoos" (p. 9) and cognitive science as "the creation science of psychology" (p. 1209). The attribution of foolish or illogical meanings to other people's words is part of this rhetoric of derision; and those who criticized Skinner, using the vernacular in doing so, were easy targets. In addition, imagine you have found that you can disconcert your opponent and interrupt your opponent's train of thought in an argument if you claim your opponent is using words incorrectly. This suggests that some if not all attributions of incorrect meanings for words may have a source in aggressive practices.

There are three characteristics to note in the above examples. The first is that none of the examples from Skinner are accompanied by a functional analysis of behavior. In fact, Skinner rarely presents the word he objects to in any context that clearly shows its meaning, which he would need to do if he were doing a functional analysis of the contingencies for the use of a word. Skinner is simply stating that certain words (as used by others) have certain properties whenever used. This is like saying that every time you see a certain topography of behavior, for example, a fist, it always has the same meaning. The second characteristic is that Skinner, for the most part, is attributing these meanings to other people. Skinner simply asserts such claims without context or analysis. He begins with a rule, not contingencies; and when Skinner attributes essentialist meanings to other people, he makes that attribution in a way which is itself an essentialist attribution. The third characteristic is that Skinner's essentialist interpretations are commonly linked to adversarial relations.

An example of a rare attribution of essentialist meaning without an evident adversary is Skinner's repeated claim that "dictionaries do not give meanings; at best they give words having the same meanings" (Skinner, 1957, p. 9; also cf. 1968, p. 202; 1973/1978, p. 177; 1974, p. 95; 1988/1989, p. 37). The first part of this statement, "dictionaries do not give meanings," is accurate because dictionary definitions are at best guidelines or approximations to meanings which are determined by the contingencies for the use of words. The second part of this statement, "at best they give words having the same meanings," is inaccurate in as much as the "at best" is impossible to achieve. If Skinner is referring to synonyms, two word forms may have the same meaning only when meaning is a property of a word form and the two word forms have the same essential property of meaning. However, as Quine (1987) observed:

> Everything real and objective having to do with our use of expressions, and hence with their meaning, can be said without positing any relation of full synonymy of expressions, or sameness of meaning. . . . Often a dictionary explains a word by citing another word or phrase that would serve much the same purposes in most situations or in situations of specified sorts, but no clean-cut relation of synonymy is called for. (p. 131)

The most that can be said is that dictionaries may identify different word forms that have similar meanings in some of their uses. "Same" is far too strong, but Skinner may have been tempted by a combination of contingencies—the rhetorical catchiness of the phrase and the continuing influence of the contingencies for giving essentialist accounts.

Originally, Skinner (e. g., 1938) may have accepted some essentialist tenets and may have made essentialist attributions partly, following Bacon and Sprat, to advance a more pure and unambiguous language for a science of behavior. But a rhetoric of aggression appeared early in Skinner's writing and supported the continuation of essentialist attributions. This may have made Skinner's essentialist practices more persistent than they would otherwise have been.

Background for a Selectionist Theory of Meaning

The principle authors listed in this section (e. g., Darwin, Dewey, Peirce, and Wittgenstein) have been referred to by Skinner, and Skinner could well have been familiar with some of their views on language and meaning. These authors belonged to what may be called a selectionist tradition in accounting for the evolution of words and their meaning. The following presents these authors, whom Skinner may have read or have been told about, as possible sources of influence on Skinner before offering what may be more direct influences for Skinner's selectionist theory of meaning.

Darwin (1871/1971), for example, noted a suggestive parallel between the evolution of species and the evolution of words and language:

> The formation of different languages and of distinct species, and the proofs that both have been developed through a gradual process, are curiously the same. . . . We find in distinct languages striking homologies due to community of descent, and analogies

> due to a similar process of formation. The manner in which certain letters or sounds change when others change is very like correlated growth. We have in both cases the reduplication of parts, the effects of long-continued use, and so forth. . . . Languages, like organic beings, can be classed in groups under groups; and they can be classed either naturally according to descent, or artificially by other characters. Dominant languages and dialects spread widely and lead to the gradual extinction of other tongues. A language, like a species, when once extinct, never, as Sir Lyell remarks, reappears. The same language never has two birth-places. Distinct languages may be crossed or blended together. We see variability in every tongue, and new words are continually cropping up. . . . The survival or preservation of certain favored words in the struggle for existence is natural selection. (pp. 59-61)

Lyell (1873) identified some of the advantages that would favor the survival of some word forms rather than others:

> The slightest advantage attached to some new mode of pronouncing or spelling, from considerations of brevity or euphony, may turn the scale, or more powerful causes of selection may decide which of two or more rivals shall triumph and which succumb. Among these are fashion, or the influence of an aristocracy, whether of birth or education, popular writers, orators, preachers…(p. 513)

The parallels that Darwin and Lyell identified were between the evolution of different types of forms—the forms of words and the forms of organisms. How different meanings may be selected and evolve for the same word form, in parallel with how different functions may be selected and evolve for the same organic form, was not addressed.

A connection between natural selection and pragmatic views of language, however, was soon established. Chauncey Wright (1873/1971, p. 254)—one of the members of the Metaphysical Club (which included Charles Peirce, William James, Nicholas St. John Green, Oliver Wendell Holmes, Jr., Francis Ellingsworth Abbott, John Fiske, and Joseph B. Warner)—suggested the evolution of self-consciousness from language and advanced an evolutionary account of "change in the usages of speech" (p. 258). Earlier, Wright (1870/1971, p. 116) had drawn a parallel between natural selection and the evolution of beliefs that entailed the evolution of human actions, crediting Alexander Bain with making the connection between beliefs and actions. Bain (1859/1977) held that "belief has no meaning except in reference to our actions" (p. 568). Peirce (1931-1963) accepted Bain's principle and recalled its advocacy by Green who "often urged the importance of applying Bain's definition of belief, as 'that upon which a man is prepared to act.' From this definition, pragmatism is scarce more than a corollary" (5.12). With support for the decisive role of consequences from Darwin (see Wiener, 1949) and Bain (see Fisch, 1954), Peirce (1931-1963) addressed meaning in terms of actions (public and private) in relation to antecedent stimuli as well as to consequences:

> Thought is essentially an action. . . . The whole function of thought is to produce habits of action. . . . To develop its *meaning* [emphasis added], we have, therefore, simply to determine what habits it produces, for what a thing means is simply what habits it involves. . . . What the habit is depends on *when* and *how* it causes us to act. As for the *when*, every stimulus to action is derived from perception; as for the *how*, every purpose of action is to produce some sensible result. Thus, we come down to what is tangible and conceivably practical, as the root of every real distinction of

> thought, no matter how subtle it may be; and there is no distinction of meaning so fine as to consist in anything but a possible difference of practice.…It appears, then, that the rule for attaining…clearness of apprehension is as follows: Consider what effects, which might conceivably have practical bearings, we conceive the object of our conception to have. Then, our conception of these effects is the whole of our conception of the object. (5.396-402; cf. 5.9; also cf. Dewey, 1916/1985, p. 366)

This passage is from "How to Make our Ideas Clear," which was included in the book of Peirce's essays that Skinner (1979/1984, p. 41) bought. It can be examined for its similarity to Skinner's (e. g., 1957, p. 449) view of thinking as behaving but more importantly to Skinner's (e. g., 1969, p. 7) three-term contingency for operant behavior. If the term *habits* is replaced with Skinner's term *operant(s)* to give: "What a thing means is simply what *operant(s)* it involves," then Peirce's position on meaning can be seen as much like what Skinner would propose. Peirce's *when* may be treated as similar to Skinner's *occasion*, and Peirce's *result* as similar to Skinner's *consequence*. In addition, Peirce's *possible* difference may be seen as similar to the *probabilistic* relations Skinner required for his three-term contingency.

For Peirce, the meanings of terms and assertions are found in the antecedent conditions and consequences of the actions that used these terms and assertions; and those who advanced a selectionist theory of meaning commonly found that meanings occurred naturally in the actual use of words: "We cannot assert too emphatically or too often that meaning depends upon use, and. . . *no form of words has any actual meaning until it is used* [emphasis in original]" (Schiller, 1930, p. 62). A similar view had been presented by Sidgwick (1892) in saying that "words are instruments" (p. 246) and "meaning consists in application" (1910, p. 312)—a view that the later Wittgenstein would pursue in some detail. Dewey (1933/1989)—whose *Logic, the Theory of Inquir*y was referred to by Skinner (1989c, p. 108)—also drew attention to the uses of a word—in its consequences and contexts:

> To grasp the meaning of a thing, an event, or a situation is to see it in its relations to other things: to note how it operates or functions, what *consequences* [emphasis added] follow from it, what causes it, what *uses* [emphasis added] it can be put to. . . . In the case of the meaning of words, we are aware by watching children and by our own experience in learning French or German that happenings, like sounds, which originally were devoid of significance acquire meaning by use, and that this use always involves a *context* [emphasis in original]. (pp. 225-231; also cf. Dewey 1916/1966, pp. 15-16 and 29-33 on meaning as use).

The relations in the use of a word to its contexts and its consequences constitutes a three-term contingency. Earlier, Dewey (1918/1988) had offered a similar three-term analysis of *meaning* as understanding in terms of *stimulus*, *event*, and *consequences*: "When (or if) the psychologist wishes to observe and understand observation and understanding, he must take for his object a certain event studied in its context of other events, its specific stimulus and specific consequences" (pp. 13-14).

A use concept of meaning involving consequences and contexts has perhaps been most famously promulgated by Wittgenstein (e. g., 1960), who said, "Think of words as instruments characterized by their use, and then think of the use of a hammer, the use of a chisel, the use of a square, of a glue pot, and of the glue" (p. 67); "Compare the meaning of a word with the 'function' of an official. And

'different meanings' with 'different functions'" (1969, p. 10e). "For the question is not, 'What am I doing when . . . but rather, 'What meaning does the statement have, what can be deduced from it, what consequences does it have?' (1980, p. 8e); "What are you telling me when you use the words . . .? What can I do with this utterance? What consequences does it have?" (1982, p. 80e). In addition, we must know the context for the use of words: "We refer by the phrase 'understanding a word' not necessarily to that which happens while we are saying or hearing it, but to the whole environment of the event of saying it" (1960, p. 157). The contexts for a word form need have no essential commonality:

> Consider for example the proceedings that we call "games." I mean board-games, card-games, ball-games, Olympic games, and so on. What is common to them all?— Don't say" "There *must* be something common, or they would not be called 'games'"—but *look and see* whether there is anything common to *all*.—For if you look at them you will not see something that is common to all, but similarities, relationships, and a whole series of them at that. To repeat: don't think, but look!— Look for example at board-games, with their multifarious relationships. Now pass to card-games; here you find many correspondences with the first group, but many common features drop out, and others appear. When we pass next to ball games, much that is common is retained, but much is lost.—Are they all 'amusing'? Compare chess with noughts and crosses. Or is there always winning and losing, or competition between players? Think of patience. In ball games there is winning and losing; but when a child throws his ball at the wall and catches it again, this feature has disappeared. Look at the parts played by skill and luck; and at the difference between skill in chess and skill in tennis. Think now of games like ring-a-ring-a-roses; here is the element of amusement, but how many other characteristic features have disappeared! And we can go through the many, many other groups of games in the same way; can see how similarities crop up and disappear.
>
>   And the result of this examination is: we see a complicated network of similarities overlapping and criss-crossing: Sometimes overall similarities, sometimes similarities of detail.
>
>   I can think of no better expression to characterize these similarities than "family resemblances"; for the various resemblances between members of a family: build, features, color of eyes, gait, temperament, etc. etc. overlap and criss-cross in the same way.—And I shall say: 'games' for a family. (1958, pp. 30-31e).

Meanings evolve in using words under different conditions. Some uses survive for a longer or shorter period of time. This process does not produce an unchanging essence for the meaning of a word.

Skinner's Selectionist Theory of Meaning

Suggesting some direct influences from pragmatic views of meaning, Skinner (e. g., 1979/1984, pp. 92, 151, 213, 281) had discussions with the pragmatist Quine, read *The Meaning of Meaning* by Ogden and Richards (1923/1989) in the early 1930s, and had discussions with one of its authors Richards. The *Meaning of Meaning* included selections from Peirce in Appendix D and discussed pragmatism and the pragmatic views of Peirce, James, Schiller, and Dewey in regard to meaning. To some extent at least, Ogden and Richards agreed with pragmatic aspects of meaning both in terms of contexts—"The first necessity is to remember that since the past histories of individuals differ except in certain very simple respects, it is

probable that their reactions to and employment of any general word will vary" (p. 127)—and in terms of a usefulness that implied consequences—"It ought to be impossible to pretend that any scientific statement can give a more inspiring or a more profound 'vision of reality' than another. It can be more general or more useful, and that is all" (p. 158; cf. James, 1890/1983, p. 962; Dewey, 1940/1991, p. 160).

A pragmatic view of meaning was also presented by Malinowski (1923/1989) in his supplement in *The Meaning of Meaning*:

> Take for instance language spoken by a group of natives in one of their fundamental pursuits in search of subsistence—hunting, fishing, tilling the soil. . . . Let us now consider what would be the type of talk passing between people thus acting, what would be the manner of its *use* [emphasis added]. To make it quite concrete at first, let us follow up a party of fishermen on a coral lagoon, spying for a shoal of fish, trying to imprison them in an enclosure of large nets, and to drive them into small net-bags. . . . Each utterance is essentially bound up with the *context of situation* [emphasis added] and with the *aim of the pursuit* [emphasis added], whether it be the short indications about the movements of the quarry, or references to statements about the surroundings, or the expression of feeling and passion inexorably bound up with behavior, or words of command, or correlation of action. . . . [L]anguage in its primitive function and original form has an essentially *pragmatic* [emphasis added] character . . . it is a mode of behaviour, an indispensable element of concerted human action. (pp. 310-316)

Elsewhere in this supplement, Malinowski repeatedly referred to *use*, the *context of the situation*, and the *aim of the pursuit* as critical features of meaning. This concern with use in context and consequences (as implicated by *the aim of the pursuit*) is central to pragmatic views of meaning.

Identifying Malinowski in *The Meaning of Meaning* as background, Skinner (1957) paraphrased Malinowski's suggestion for how verbal behavior originated:

> As soon as men began to work together in hunting, fishing, building shelters, or making war, situations must have arisen in which rudimentary verbal behavior would be of use. In a co-operative fishing enterprise, for example, one man might be in a position to see the fish while another could pull the net. Any response which the former might make to the fish would improve the timing of the latter, possibly with advantages for both. Comparable coordinating functions are easily discovered in the behavior of a well-developed verbal community. (p. 452)

Skinner (1957), however, objected to talking about the "'use of words'" (p. 7), suggesting that *use*, a common term in the vernacular, would be misunderstood.

Skinner (e. g., 1984/1988, p. 333 on Wittgenstein; 1979/1984, p. 150 on Bloomfield) also dismissed influences from some of the authors he read whose impact may have been more than he indicated. Placing meaning in a three-term relation, Bloomfield (1933/1961) said:

> We have defined the meaning of a linguistic form as the situation in which the speaker utters it and the response which it calls forth in the hearer. The speaker's situation and the hearer's response are closely coordinated, thanks to the circumstance that every one of us learns to act indifferently as a speaker or as a hearer. In the causal sequence
>
> speaker's situation $\rightarrow$ speech $\rightarrow$ hearer's response
>
> the speaker's situation, as the earlier term, will usually present a simpler aspect than the hearer's response; therefore we usually discuss and define meanings in terms of a speaker's stimulus. (p. 139).

Bloomfield locates the usual discussion of meaning in the speaker's stimulus, but he shows the consequent effect on the hearer as the primary outcome of the causal sequence. Curiously, Skinner (1979/1984) spoke derisively of Bloomfield's account in a letter he wrote to Keller in the 1930's: "Bloomfield, the best linguist in the field today, has come around from Wundt in his first edition (1915) to behaviorism in his last (1932) period. But his account of what is happening when words are *used* [emphasis added] is laughable" (p. 150). Also of note is that Skinner apparently does not believe his own use of *used* in "when words are *used*" will be misunderstood (also cf. Skinner's approving "use of the popular term," 1935/1972, p. 475; "words are used," 1974, p. 92; and "use of the word," 1989/1989c, p. 33).

In advancing his selectionist theory of meaning, Skinner (1945/1972) contrasted rules with contingencies. The psychologist cannot "join the logician in defining a definition, for example, as a 'rule for the use of a term.'" The psychologist "must turn instead to the contingencies of reinforcement which account for the functional relation between a term, as a verbal response, and a given stimulus" (p. 380). Skinner identified only two terms here for the contingencies of reinforcement, a response and a stimulus for that response, even though Skinner (1938, p. 138) had some time ago identified a three-term contingency for reinforcement, which suggests Skinner may still have been under some control from S-R formulations of meaning. Nevertheless, Skinner's views in this article were cited with approval by Dewey and Bentley (1947; also cf. Bentley's, 1954/1991, praise of Skinner, p. 447, written with Dewey's approval, p. 443, and Bentley's complimentary letter to Skinner, cited in Skinner, 1979/1984, pp. 344 and 369).

Later, after Skinner's three-term contingency had become a more established assumption, Skinner (1957) presented a more detailed theory of meaning:

> Meaning is not a property of behavior as such but of the conditions under which behavior occurs. Technically, meanings are to be found among the independent variables in a functional account, rather than as properties of the dependent variable. When someone says that he can see the meaning of a response, he means that he can infer some of the variables of which the response is usually a function. (pp. 13-14; also cf. 1968, p. 203; 1974, pp. 90-92; 1984/1988, p. 186)

These variables included the *discriminative stimulus* and the *reinforcing stimulus* of Skinner's three-term contingency. Subsequently, Skinner dropped *discriminative stimulus* for the more inclusive concept of *occasion*, which he later replaced with *setting* (e. g., 1969, p. 7; 1973, p. 257; 1984/1988, p. 215; also see 1984/1988, p. 265; 1987/1989a, p. 10; 1987/1989b, p. 62; 1989/1989a, p. 13; 1989/1989b, p. 126; also cf. Skinner's interview with Segal, 1988).

Skinner's selectionist theory of meaning is a causal interpretation. In contrast to Russell (1936, p. 135), however, who had also claimed a causal interpretation of meaning, Skinner's causality was not that of essential necessity between two terms but of selectionist probability—the probabilistic relations among the three-term contingencies of reinforcement. This suggests that Skinner may have arrived at his selectionist account of meaning simply as a result of casting verbal behavior as operant behavior within his probabilistic three-term contingency, just as Watson and

Russell may have arrived at their essentialist accounts of meaning simply as a result of casting verbal behavior as S-R behavior.

Skinner (1957) distinguished his approach from narrower one-to-one correspondence, or S-R, theories of meaning: "Theories of meaning usually deal with corresponding arrays of words and things;" but "How do the linguistic entities on one side correspond with the things or events which are their meanings on the other side, and what is the nature of the relation between them called 'reference'"? (pp. 8-9). Such a "words and things" account was too restrictive for Skinner:

> Semantic theory is often confined to the relation between response and stimulus which prevails in the verbal operant called the tact. . . . Even within the narrow relation represented by the tact the traditional notion of meaning is not adequately represented, since over and above a relation of reference we have to consider that of assertion (see Chapter 12) and the question of whether a verbal response is precise, true, and so on (see Parts IV and V). (p. 115)

Other relations, such as intraverbal relations, would also be inadequately represented.

An Ideal Language is Impossible

Skinner (e. g., 1979/1984, p. 80) may have had difficulties with words in the vernacular, but Skinner (1957) did not think an ideal language was a realistic alternative:

> Under the conditions of an ideal language, the word for *house*, for example, would be composed of elements referring to color, style, material, size, position, and so on. Only in that way could similar houses be referred to by similar means. The words for two houses alike except for color would be alike except for the element referring to color. If no element in the word referred to color, this part of the conditions of an ideal language could not be fulfilled. Every word in such a language would be a proper noun, referring to a single thing or event. Anyone who spoke the language could immediately invent the word for a new situation by putting together the basic responses separately related to its elements. . . . Such a language is manifestly impossible. (pp. 123-124)

Skinner is not simply saying an ideal language cannot replace ordinary language, as Russell did, he is stating flatly that an ideal language is impossible. In actual use, even stipulated meanings may have some variances because the meaning of the stipulations themselves will depend on the different histories of readers (or listeners) of the words in the definition; and it is impractical, even in mathematics to require completely unambiguous statements (Rapoport, 1960, p. 292). In addition, even stipulated meanings will change as they are put in use. An effort to form new words for each new meaning that a word acquires would lead to rapid and unwieldy increases in the number of neologisms, which would always lag behind new meanings. This situation is further complicated by attempting to use fixed atomic elements of meaning. Where is the list of atomic elements to come from? What is to keep the meaning of the elements from changing? Who is to update this list? Obviously many of our words are compounds of different word forms, for example, book/worm, under/stand, etc., but, also obviously, the elements in these words do not possess unchanging meanings.

Meaning is not the Property of a Word

Skinner (1979/1984) also rejected the essentialist views of Watson and Russell: "It was not true, as Watson, Russell and others had said, that one responded to words as if they were the things the words stood for" (p. 335). Skinner (e. g., 1974) reemphasized this point, "Meaning is not properly regarded as a property of a response or a situation but rather of the contingencies responsible for both the topography of behavior and the control exerted by stimuli" (p. 90). In particular, Skinner (1974) emphasized that meaning is not in the form of a word: "The meaning of a response is not in its topography or form (that is the mistake of the structuralist, not the behaviorist)" (p. 90). This rejection was restated:

> The sounds represented in English orthography as *cat* or the marks CAT have no meaning *in* them; nor is it possible to put meaning *into* them, to invest them with meaning. . . . As responses, the circumstances controlling their appearance *are* their meaning. As stimuli, their meaning is the behavior under their control. (Skinner, 1980, p. 114).

These statements are virtually a direct contradiction of Russell, even to the example of "cat." Skinner also took issue with the close identification of word and object in Russell's (1940, p. 82) claim that when we hear the word *fox* we show our understanding of that word by behaving (within limits) as we would have done if we had seen the fox. In part, Skinner (1957) said, "The verbal stimulus *fox* . . . may, as Russell says, lead us to look around . . . but we do not look around when we see a fox, we look at the fox" (p. 87). Skinner (1979/1984, p. 324), in fact, suggests that his *Verbal Behavior* (1957) was to some extent a response to Russell's *Theory of Meaning* (1940).

In Skinner's (1985/1987) selectionist theory, there is neither an essential meaning for a word form nor an essential meaning transmitted between speaker and listener:

> Meaning is not in what speakers say; it is at best in the personal histories and current settings responsible for their saying it. Meaning for the listener is what the listener does as the result of a different personal history. . . . Speakers create settings in which listeners respond in given ways; nothing is communicated in the sense of being transmitted from one to the other. Sentences are "generated," but usually by contingencies of reinforcement and only occasionally with the help of rules extracted from them. Only when the contingencies are inadequate do speakers turn to rules. (p. 107)

Speakers and listeners are continually behaving to some extent under different contingencies and different meanings; and a good listener follows the meaning of the speaker's words closely as if speaking along with the speaker, which means being able to infer some of the contingencies for the speaker's use of words. The rule-like definitions found in dictionaries are streamlined accounts of the contingencies that give rise to the rule. These rules may be helpful, but they are never foundational. For Skinner (1988/1989), "The contingencies always come first" (p. 44).

In Skinner's analysis, consequences or effects, and their prediction, are commonly the central concern in issues of meaning. For the poet:

> The effect on the reader—particularly on the writer as reader—is important because a poem evolves under a kind of natural selection. All behavior is intimately affected by its consequences, and just as the conditions of selection are more important in the evolution of a species than the mutations, so the selective action of a pleasing effect is more important than the meaningful sources of the responses selected. Pleasing responses survive as a poem evolves. (Skinner, 1973/1978, p. 187; also cf. 1969, pp. 292-293)

In saying that the effect was more important than the source, Skinner acknowledged the importance we give to consequences in our conscious concerns with meanings. We commonly attend to the effect of our words on others and make adjustments accordingly with little conscious attention to contexts.

Attention to the setting for the use of a word or expressions becomes prominent in an extended analysis of meaning (e. g. Skinner, 1981, p. 502; 1990, p. 1206; Trudeau, 1990). These contexts include genetic, personal, and cultural histories. They are among the independent variables of verbal behavior and are part of the meaning of that behavior. A personal history also includes private thinking and feeling, and Skinner included a functional role for such events in the contingencies of operant behavior. However, these private events were not to be regarded as origins that are sufficient to explain behavior in isolation from other contingencies (e. g., Skinner, 1957, pp. 157-158, 214; 1963, p. 958; 1974, p. 31; 1980, p. 227; 1984/1988, pp. 486-487; 1987/1989a, pp. 3, 11; 1988/1989, p. 24). This appears to leave an overwhelming number of considerations for an analysis of meaning. However, in general, an analysis of meaning proceeds like any other analysis of behavior. In accounting for the contingencies of behavior, "One begins wherever possible and proceeds as soon as possible to a more and more adequate account which, of course, will never be complete" (Skinner, 1984/1988, p. 380). Such "a description of the contingencies is never complete or exact (it is usually simplified in order to be easily taught or understood)" (Skinner, 1974, p. 125).

Conclusion

The ideal of a fixed, immutable meaning for a term is not even attractive for technical languages that seek relatively precise meanings. The meaning of a technical term often changes. Skinner's early definition of the operant in 1938 (pp. 177-178) is not the same as his later definition in 1969 (p. 7); and Catania (1973) found three different usages of the term *operant*: "as a class of responses defined by the production of stimuli (the stimulus-probability or contingency distribution); as a class of responses generated by contingencies (the response distribution); and as a response-stimulus relation (the correlation between stimulus-probability and response distributions)" (p. 113). Consider what it would be like if a different term were used in place of *operant* each time Skinner modified his conception of the three-term contingency for the operant formulation thereby giving the operant a new meaning, and if each usage of the operant identified by Catania had a different term. Would this advance understanding and effective action? In any language community that learns and grows in knowledge, including a scientific language community, fixed and immutable meanings for words are undesirable as well as impossible.

Given the limitations of exactness even in technical language and Skinner's (1938, p. 8) recognition that words in the vernacular are vague, more so than in technical language, Skinner's (e. g., 1938, pp. 7-8; 1953, p. 90; 1984/1988, p. 369) occasional claims of essential meanings for word forms in the vernacular is odd. Skinner's real issue with words in the vernacular would seem to be that they may be ambiguous in their contexts and *might* lead to unwanted interpretations not that they *necessarily* would (cf. Midgley, 1978, p. 112). Yet Skinner often explained the unwanted interpretation as though it were the property of a word and was much more ready to do so with other people's usage than with his own.

To some extent, the difference between Skinner's theoretical statements in explaining meaning and his essentialist interpretations of other people's meaning may be explained as a difference between what he recommended and what he did. In Skinner's *Walden Two* (1948/1962), Frazier (p. 249) excused the deviance between his behaviors and the behaviors designed for the members of *Walden Two* on the basis that he was not a product of *Walden Two*. As an emphatic illustration of such inconsistency, Frazier spoke against giving thanks or praise, "Things run more smoothly if we don't hand out tokens of gratitude and if we conceal personal contributions" (p. 170); and "The deliberate expression of thanks is prohibited by the Code." (p. 171). But Frazier was then described as exhibiting behavior contrary to these statements:

> The pianist threw both hands in the air, jumped to his feet, and shouted "Bravo!" It was Frazier. "Thank you! Thank you!" he shouted to the other players. "You're angels! Angels!" He grabbed the tail of the second violinist and kissed it with a ceremonious bow. "You were wonderful!" (p. 216).

As presented in *Walden Two*, this discrepancy is easy to account for. In explaining the rules in *Walden Two*, Frazier was under far different contingencies than he was at the end of his piano performance. Similarly, the controlling contingencies in addressing meaning when Skinner wrote *Verbal Behavior* (1957) were quite different from the controlling contingencies for Skinner's attributions of essentialist meanings. The one was in the context of providing a clear explanation for readers, the other was commonly in the context of showing up adversaries, real or rhetorical. This is not to rule out continuing influences from early readings in Bacon and early S-R theories of meaning.

More to be remembered, Skinner's advancement of a selectionist theory of meaning was clear and strong and has strong implications. His theoretical contribution to a selectionist meaning is the embracing, systematic framework of operant behavior in which contingencies are foundational. Rules or accounts of meaning may be useful, and some may survive for a time; but they always depend upon the probabilistic contingencies of their use and are always susceptible to change. As illustrated in Skinner's (1957) opening statement to *Verbal Behavior*, these changes are highly interactive and comprehensive: "MEN ACT [emphasis in original] upon the world, and change it, and are changed in turn by the consequences of their action" (p. 1). In reference to meaning, this may be rephrased: we act upon the world, change the meaning of it, and are changed in turn by the consequences of that meaning.

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