

PSYCHOLOGICAL FOUNDATIONS OF VALUE THEORY: B. F. SKINNER'S SCIENCE OF VALUES

by *William A. Rottschaefter*

Abstract. The thesis that the sciences are value neutral has recently been criticized severely. However, both the critics of the value-neutrality thesis and its upholders share the separatist position that there is a fundamental dichotomy between fact and value, differing only on the degree to which science is impregnated with values. Skinner's claim that the science of operant behavior is the science of values rejects this dichotomy and is opposed to both the value-neutrality thesis and criticisms of it. I examine Skinner's claim that psychology is value-laden in the radical sense of providing a foundation for a theory of values and conclude that Skinner is arguing for an ethics and theory of values which is naturalistic, teleological, and both substantively and methodologically objective.

It has become commonplace in the past few years to point out the value-laden characteristics of the sciences, especially the social sciences.¹ Psychology is not an exception to this new view. We need only consider the discussions concerning mental health to see that this is the case.² The claim is made that ethical and value issues intrude themselves upon the practice and even the essential methods of the social sciences, and arise in the practice of science in several ways: (1) decisions about what to research, (2) ethical issues concerning experimentation, (3) ethical issues in clinical work, (4) decisions about the use of scientific results, and (5) the consequences of the application of scientific findings. Moreover, it is sometimes claimed that value-laden decisions enter into the social sciences in a more fundamental way, that they invade the very methodology, data, hypotheses, and theories of the social sciences including psychology.³

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This rejection of the assumed value-neutral character of the social sciences is in part a reaction to the longstanding logical-positivist view, applied to the sciences, that there is a substantive distinction between the content of science and that of normative and value discussions.⁴ The former concerns itself with the realm of the empirical and factual and is objective: the latter concerns itself with the realm of the nonempirical and is subjective. Thus according to this neutralist thesis, to the extent that a discipline presupposes or takes value or normative stances, the objectivity and therefore the scientific character of that discipline is open to question. With few exceptions critics of the neutralist thesis accept the separatist thesis concerning the dichotomy between fact and value.⁵ They differ with the neutralists about the degree, if any, to which science is impregnated with norms and value judgments, and thus is inherently subjective.

In contrast to both the neutralist claim about the value neutrality of science and its separatist presuppositions concerning the dichotomy between fact and value, we find the following claim of B. F. Skinner in *Beyond Freedom and Dignity*: "Things themselves are studied by physics and biology usually without reference to their value but the reinforcing effects of things are the province of behavioral science, which to the extent that it is concerned with operant reinforcement, is a science of values."⁶

Surprisingly little attention has been paid in philosophical circles to Skinner's provocative claims about a science of values.⁷ And although three recent papers (two favorable to Skinner and one not) begin to explore the implications of Skinner's views on values, they suffer from fundamental misunderstandings of Skinner.⁸ Thus in the light of the recent discussions of values in the social sciences and the recent attempts to explore Skinner's views on values, some initial analysis of Skinner's radical thesis seems to be in order. Accordingly, this essay will attempt to explicate Skinner's claim that the science of operant behavior is a science of values and will sketch some of the basic lines of Skinner's views on values. From this analysis I shall conclude that Skinner is arguing for a theory of value which is both naturalistic and teleological. The basis for this theory of value is to be found in operant behaviorism and evolutionary theory. Accordingly, it is, in Skinner's view, both substantively and methodologically objective.

SKINNER'S CONCEPTION OF VALUE

Skinner defines value or good, and thereby its correlative bad or evil, in a deceptively simple fashion. The good is what is positively reinforcing and evil is what is negatively reinforcing. All three recent attempts to explicate Skinner's notion of the good have floundered on his notions of positive and negative reinforcement, explicitly or im-

PLICITLY identifying positive reinforcement with pleasure or enjoyment and negative reinforcement with pain. Thus Gilbert Fulmer claims that "values, thinks Skinner, are nothing more than the way people feel about facts. . . . Now it is the whole program of *Beyond Freedom and Dignity* to recommend the adoption of different methods of social control—methods which are 'non-aversive' (i.e., painless) and effective. . . . Caligula is reinforced by negative reinforcements of others (in the ordinary way we would say that he takes pleasure in other's pain)."⁹ Similarly, Max Hocutt and George Graham, also discussing the problem of sadism relative to Skinner's claims, implicitly understand Skinner to be claiming that positive reinforcers are to be identified with good feelings and negative reinforcers with bad feelings. Hocutt also identifies values with desires, wants, and self-interest—mentalistic categories which are rejected by Skinner's radical behaviorism.¹⁰

But Skinner explicitly distinguishes between positive and negative reinforcers on the one hand and feelings on the other. A positive reinforcer is that which increases the probability that the behavior of which it is the consequence will be performed. A negative reinforcer (mistakenly identified with punishment by Fulmer) is a thing which increases the probability that the behavior will be performed whose consequence is the avoidance of that thing.¹¹ Punishment, on the other hand, is something which decreases the probability of a behavior. Positive and negative reinforcers are not, then, pleasure and pain; rather things and their reinforcing effects are positively or negatively reinforcing and thus good or bad.¹²

Accordingly, the reinforcing effects of things are to be distinguished from pleasure and pain, and from good and bad feelings. Indeed, although feelings can be the result of reinforcing effects, there is, according to Skinner, no significant causal connection between feelings and reinforcing effects.¹³ This connection can be illustrated in terms of the important distinction Skinner draws between long-term and short-term consequences of reinforcement. The long-term consequences of such activities as exercise and jogging, namely, health or the well functioning of the physical organism, are to be distinguished from the immediate results of such activities and the pleasure or pain they incur. To cite two examples used by Skinner, nutritious food is reinforcing not because it tastes good but because it promotes a well-functioning organism and ultimately its survival and that of the species, and sexual behavior is valuable not because it feels good but because it also is necessary for the species' survival. Thus Skinner denies not only that feelings are causes of behavior, antecedents of behavior, but also that they are values, that is, reinforcing consequences of behavior.¹⁴ Reinforcing effects, of course, can pro-

duce good or bad feelings, pleasure or pain, and these can and, indeed, do serve at times as clues for the organism as to what are reinforcing effects.¹⁵ The reinforcing effect, however, is some state of the organism in which the organism can be described as well-functioning in some respect or which is conducive to such well-functioning and ultimately to its survival and that of its species.

Although the issue cannot be pursued here, it is important to note for purposes of clarifying Skinner's view that neither feelings nor thoughts—in particular plans and intentions—play a causal role in attaining what is valuable and the well-functioning that valuable things produce. Thus the basic biological values, the primary reinforcers, are mediated in Skinner's view by a series of learned reinforcers that reflect both personal learning history and social/cultural influences.¹⁶

Therefore, things themselves can be called good or bad not because they possess some physical property of goodness or badness but rather because of their positive or negative reinforcing effects. "Good," then is in Skinner's view a relational predicate. Some things are good in relation to persons because of their reinforcing effects upon persons.

Skinner is, then, advocating a position of ethical naturalism. He opposes his view to what he finds to be the ordinary everyday view of values, itself a naturalistic position, that the good is what is pleasurable, what feels good, and the bad is painful, what feels bad. As a consequence he is opposed to philosophical extensions of the ordinary everyday naturalistic view such as hedonistic and utilitarian ethical systems.¹⁷

THE SCIENCE OF VALUES

Skinner's characterization of value allows us to understand why he speaks of a science of values and why he claims that the science of operant behavior is the science of values. For if good and bad are defined in terms of positive and negative reinforcers, then the science of operant human behavior is concerned with the humanly valuable since it is this science which serves to identify these reinforcers and to formulate law-like relationships between reinforcers and behaviors. Thus, at a minimum, Skinner is claiming that the philosophical discipline of ethics has its foundation in scientific psychology, specifically the science of operant behavior. The stronger claim also seems to be a plausible interpretation of Skinner's views, namely, that the science of values and the philosophical discipline of ethics are identical.¹⁸

However, the science of operant behavior is itself ultimately founded in biology, specifically in evolutionary theory. Reinforcing effects are reinforcing because they promote well-functioning or-

ganisms and thus survival of the species. Therefore, the ultimate bases of the contingencies of reinforcement of operant behavior are the contingencies of survival under which the species evolved.¹⁹ As a result Skinner can speak of a "kind of natural morality in both biological and cultural evolution" because both genetically inherited structures and behaviors and culturally transmitted practices and institutions have benefited the persons who have and do practice them.²⁰ Skinner, of course, is not claiming that all genetic variations and cultural changes are adaptive; but, indeed, some have been and have thus promoted the survival of the person and of the culture.

However, although reinforcers find their ultimate basis in the survival of the species or organism in question, it is important to note that Skinner's notion of survival is not reductionistic.²¹ There are, I believe, at least two relevant reductionistic notions of survival, neither of which functions in a primary way in Skinner's account. First, survival may mean barely surviving to reproduce, and, second, it may mean fulfilling in a minimal way only some certain set of limited biological needs. Skinner's notion of survival is ampler than either one of these. Thus he argues that the goals of a cultural designer working for the survival of the culture are among other things civil order, defense, productive labor, availability, development and conservation of resources, healthy environment, medical care, appropriate population density, institutes of learning and support, respect for tradition, openness to change, and willingness to examine its practices and experiment with new ones.²² Such are some of the criteria for a culture which survives. A similar list could be made for the other two basic values, personal good and good for another. Thus it seems to me that Skinner uses survival as a general, summary term to include a number of reinforcing effects which are reinforcing, that is valuable, because they contribute to the well-being and continued existence of individuals and societies.²³

TELEOLOGICAL, OBJECTIVE NATURALISM

The notions of well-functioning persons and societies imply a teleological view of ethics and values. Thus for an ethics founded on psychology and biology they imply theses concerning the explanatory character of operant behaviorism and adaptation in evolutionary theory. These theses would include the claim that at least some explanatory patterns in psychology and biology are teleological. Skinner has made some interesting comments pertinent to this claim, although he has not developed them in systematic fashion.²⁴ However, Jon Ringen has recently argued that explanations in terms of operant behavior and conditioning are teleological.²⁵ He claims with Skinner that there is a fundamental difference between respondent and oper-

ant behavior and conditioning. In Ringen's view, respondent behavior and conditioning are accounted for in terms of the antecedents of behavior and thus fit a mechanistic mode of explanation. But operant behavior and conditioning are accounted for in terms of the consequences of behavior and thus demand a teleological mode of explanation.²⁶ As a result, Ringen argues, the commonly held view that behavioristic psychological explanations are all mechanistic, a view highly influenced by Charles Taylor's *The Explanation of Human Behavior*, is a mistake. Ironically, Ringen finds that Larry Wright's modification of Taylor's own analysis of teleological behavior fits explanations in terms of operant behavior and conditioning.²⁷

Although I cannot examine these claims here, it is indeed important to note that Skinner explicitly distinguishes between the ways behavior is brought about by respondent and operant conditioning. The latter is nonmechanistic. For understanding operant behavior and conditioning, Skinner uses as a model the evolutionary explanatory pattern of variation, selection, and adaptation.

The effect of an eliciting stimulus is relatively easy to see, and it is not surprising that Descartes' hypotheses (the mechanistic one) held a dominant position in behavior theory for a long time, but it was a false scent from which a scientific analysis is only now recovering. The environment not only prods or lashes, it *selects*. Its role is similar to that in natural selection, though on a very different time scale, and was overlooked for the same reason. It is now clear that we must take into account what the environment does to an organism not only before but after it responds. Behavior is shaped and maintained by its consequences. Once this fact is recognized, we can formulate the interaction between organism and environment in a much more comprehensive way.²⁸

But since Skinner rejects consciousness as an explanatory category, even in the explanation of human behavior, the teleological component of explanation in terms of operant behavior must in his view function in a nonconscious fashion.²⁹

Finally, implicit in Skinner's claim that there is a science of values is the thesis that the study of values can be both substantively and methodologically objective. Substantive objectivity means that there are some universal human values independent of our (individual and societal) beliefs, wants, or choices. Methodological objectivity requires that some of these values can be discovered and understood. Thus it implies that the science of operant behavior can provide a means for such discovery and understanding.³⁰

It is this claim for methodological and substantive objectivity, implicit in the notion of a science of values, that has been missed in both the favorably inclined critiques of Hocutt and Graham and the negative critique of Fulmer. All three critics use the case of sadism in ways which reveal their misunderstanding of Skinner's claim. Hocutt uses the claim that the sadist is positively reinforced by the pleasure he

receives from torturing others to argue for a naturalistic relativism which he implicitly identifies with Skinner's position. Graham, on the other hand, doubts that Skinner can handle the relativism implied in the sadist case and Fulmer claims that he cannot. All three positions rest on the mistaken interpretations that Skinner is concerned with only individual and societal reinforcers and that positive reinforcers are to be identified with pleasure. Thus, in their view, Skinner seems to be caught in an individualistic or cultural relativism. What is lacking in these analyses, then, is an appreciation of Skinner's claim that operant behavior, precisely as a *science* of behavior, is concerned with the general, indeed, with species-specific reinforcers. The identification of such reinforcers and the establishment of law-like relationships between such reinforcers and various behaviors provide Skinner with resources to refute the relativistic arguments and problems posed by these interpreters of his position.³¹

Thus in my view Skinner is supporting a naturalistic and teleological theory of ethics and values based on the science of operant behavior and conditioning and ultimately on the biological theory of evolution. Also, as a science his approach to values claims to be both methodologically and substantively objective. If my interpretation of Skinner is correct, then he is challenging the separatist thesis of both the neutralists and their critics and is maintaining that psychology is value-laden in an essential way. But such value-ladenness does not imply that psychology is essentially infected by bias and subjective viewpoints. Rather, it implies that our best scientific theories about persons and their behavior provide the best indicators we have of what is humanly valuable and why it is so.

NOTES

1. Richard Bernstein provides a fascinating account of the relationship of value discourse to the social sciences from the perspectives of the four major philosophical views of the social sciences—empiricist, analytic, phenomenological, and Marxist—in his *The Restructuring of Social and Political Theory* (New York: Harcourt Brace Jovanovich, 1976). Unfortunately, Skinner's views are not addressed by Bernstein.

2. The writings of Thomas Szasz come to mind immediately: *The Myth of Mental Illness: Foundations of a Theory of Personal Conduct* (New York: Hoeber-Harper, 1961) and *The Manufacture of Madness: A Comparative Study of the Inquisition and the Mental Health Movement* (New York: Harper & Row, 1970). See also Perry London, *The Modes and Morals of Psychoanalysis* (New York: Holt, Rinehart and Winston, 1964).

3. Bruce Wavell has recently claimed this is the case even for the natural sciences: Bruce B. Wavell, "The Rationality of Values," *Zygon* 15 (March 1980): 43-56.

4. For a very sophisticated and detailed account of the classical neutralist position see Ernest Nagel, *The Structure of Science: Problems in the Logic of Scientific Explanation* (New York: Harcourt, Brace and World, 1961), pp. 447-546.

5. See Bernstein's account of the views of the critics from both the analytic and phenomenological perspectives. The exception in Bernstein's view is the neo-Marxist approach of Jurgen Habermas. For another exception see Sandra Harding, "Four Contributions Values Can Make to the Objectivity of Social Science," *Proceedings of the*

1978 *Biennial Meeting of the Philosophy of Science Association*, ed. Peter D. Asquith and Ian Hacking (East Lansing, Michigan: Philosophy of Science Association, 1978), 1:199-209.

6. B. F. Skinner, *Beyond Freedom and Dignity* (New York: Alfred A. Knopf, Bantam/Vintage Book, 1971), p. 99.

7. B. F. Skinner's *Beyond Freedom and Dignity* was published in September 1971. In the two years previous to that time I discovered only one article about Skinner in the *Philosopher's Index*. Since that date through the Winter 1977 number of *Philosopher's Index*, approximately a five-year period, there were 58 articles concerning Skinner listed. Some of this increase is no doubt to be attributed to the beginning of publication in 1972 of the interdisciplinary journal in philosophy and psychology, *Behaviorism*.

8. Gilbert Fulmer, "Skinner's Values," *The Journal of Value Inquiry* 10 (1976): 109-18; Max Hocutt, "Skinner on the Word 'Good': A Naturalistic Semantics for Ethics," *Ethics* 87 (1977): 319-38; and George Graham, "On What is Good: A Study of B. F. Skinner's Operant Behaviorist View," *Behaviorism* 5 (1977): 97-122. See also William A. Rottschaefer, "Fulmer's Skinner and Skinner's Values," *The Journal of Value Inquiry* 14 (1980): 55-63 and idem, "Skinner's Science of Values," *Behaviorism* 8 (1980): 99-112 for critiques of these accounts of Skinner's views.

9. Fulmer, pp. 107, 109-10.

10. Hocutt and Graham.

11. Skinner, pp. 24-25, 56-57. I shall use the term "thing" in a broad general sense to cover the whole range of reinforcers physical and social.

12. *Ibid.*, pp. 100-02.

13. *Ibid.*, p. 100.

14. B. F. Skinner, "Can We Profit from Our Discovery of Behavioral Science?" *Reflections on Behaviorism and Society* (Englewood, N.J.: Prentice Hall, 1978), pp. 92-93. Cf. idem, "Humanism and Behaviorism" in the same work, pp. 52-53, and idem, *About Behaviorism* (New York: Alfred A. Knopf, Vintage Books edition, 1976), pp. 52-54, 211.

15. Skinner, *Beyond Freedom*, p. 102.

16. Skinner's radical behaviorism has been challenged by recent advances within the behavioral tradition itself. Cognitive and social learning theories have extended the Skinnerian operant-learning model to the person's internal cognitive environment. In so doing they have introduced cognitive variables to account for some human behaviors. Edwin Erwin has presented these developments and their philosophical implications in his recent very important volume *Behavior Therapy: Scientific, Philosophical, and Moral Foundations* (Cambridge: Cambridge University Press, 1978). Although Erwin contends that the connections between radical behaviorism and cognitive behaviorism are merely heuristic, I have argued that the latter also involves analogical extensions of operant learning principles. See William A. Rottschaefer, "Operant Learning and the Scientific and Philosophical Foundations of Behavior Therapy" (paper delivered at the seventh annual meeting of the Society for Philosophy and Psychology, Chicago, April 3, 1981).

17. Skinner (n. 6 above), p. 102.

18. In private correspondence Professor Skinner has indicated to me that he thinks the first interpretation is preferable, namely that ethics has its basis in scientific psychology, but only because he is uneasy about the practices of a philosophical discipline.

19. Behaviorists in general and Skinner in particular have been thought to attribute little importance to and to pay little attention to the genetic determinants of behavior. Skinner has recently defended himself against such a charge from one of his former students and present colleagues, Richard Herrnstein. See R. J. Herrnstein, "The Evolution of Behaviorism," *American Psychologist* 32 (1977): 593-603; Skinner's reply, B. F. Skinner, "Herrnstein and the Evolution of Behaviorism," *American Psychologist* 32 (1977): 1006-12; and Herrnstein's reply, "Doing What Comes Naturally: A Reply to Professor Skinner," *American Psychologist* 32 (1977): 1013-16.

20. Skinner (n. 6 above), p. 165.

21. For a different nonreductionistic account of survival see Karl E. Peters, "Evolutionary Naturalism: Survival as a Value," *Zygon* 15 (June 1980): 213-22.

22. Skinner (n. 6 above), p. 145.

23. Skinner's views on the connections between personal good and good for another are developed in among other places *Beyond Freedom and Dignity* (n. 6 above), pp. 121-74 and *About Behaviorism*, pp. 184-227.

24. Cf. Skinner, "Are We Free to Have a Future?" in *Reflections on Behaviorism and Society* (n. 14 above), pp. 16-32.

25. Jon Ringen, "Explanation, Teleology and Operant Behaviorism: A Study of the Experimental Analysis of Purposive Behavior," *Philosophy of Science* 43 (1976): 223-54.

26. We might characterize this mode as weakly teleological in the sense that a given instance of behavior is not governed by its immediate consequence. Rather the schedule of reinforcement, including past history of reinforcement and the immediate consequence of the given instance of behavior, govern the future rate of responding. I am grateful to an anonymous referee for emphasizing this point.

27. For Wright's analysis of teleological and functional explanation see his *Teleological Explanations: An Etiological Analysis of Goals and Functions* (Berkeley: University of California Press, 1976). Douglas Porpora has recently challenged Ringen's analysis in "Operant Conditioning and Teleology," *Philosophy of Science* 47 (1980): 568-82. Porpora argues, among other things, that operant behavior is not teleological because it is a function of reinforcement history and not of the immediately following consequences. Porpora is surely correct insofar as reinforcement history is a necessary condition for the occurrence of the operant behavior, but he fails to note that the *explanandum* in operant laws is the change of rate of behavior over a period of time. This change is governed not only by reinforcement history but also by the future schedule of reinforcement. Consequently, explanations in terms of operant laws necessarily involve consequences and as such are teleological even though weakly so (see n. 26 above).

28. Skinner, *Beyond Freedom* (n. 6 above), pp. 15-16. See also idem, *About Behaviorism* (n. 14 above), pp. 40-45.

29. Many behaviorally oriented psychologists now believe that explanations of some human behaviors must include cognitive variables. Such explanations would be teleological in a stronger sense of the term (see n. 26 and n. 16).

30. Circularity must be avoided in the identification of values and of value-governed behaviors and the formation of the relationships between them. Thus a particular value cannot be identified on the basis of its ability to increase the rate of a certain behavior, if the behavior whose rate is increased is itself identified on the basis of that same particular value. However, such circularity can be avoided. The increase in the rate of a certain behavior can be identified independently of the valued consequence by establishing a base line rate and then observing changes in performance rate in various circumstances. And the valued consequence can be identified independently by the report of subjective states, "good or bad feelings," which in Skinner's view are cues to the presence of positive or negative reinforcers and the effects of such reinforcers. Valued consequences can also be identified by their connections with biologically based primary reinforcers.

31. In a very important sense values are relative to times, places, and individuals. Thus food is not always positively reinforcing in every circumstance. This properly relativistic character of values is captured in the operant analysis by the necessary inclusion, for example, of the state of food deprivation of the organism in any description of the experimental situation. Such relativity must be distinguished from the individualistic or cultural relativism of values that makes all values individually or culturally relative and dependent for their characterization on individual or societal beliefs, wants, or choices.