Values and the Scientific Culture of Behavior Analysis

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As scientists and practitioners, behavior analysts must make frequent decisions that affect many lives. Scientific principles have been our guide as we work to promote effective action across a broad spectrum of cultural practices. Yet scientific principles alone may not be sufficient to guide our decision making in cases with potentially conflicting outcomes. In such cases, values function as guides to work through ethical conflicts. We will examine two ethical systems, radical behaviorism and functional contextualism, from which to consider the role of values in behavior analysis, and discuss potential concerns. Finally, we propose philosophical pragmatism, focusing on John Dewey's notions of community and dialogue, as a tradition that can help behavior analysts to integrate talk about values and scientific practices in ethical decision making.

Key words: functional contextualism, naturalistic ethics, pragmatism, radical behaviorism, values

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As scientists and practitioners, behavior analysts must make frequent decisions that affect others. Implicit in our practices are numerous assumptions about the welfare of those we serve and how to best ensure it. Our scientific tradition has yielded a powerful behavioral technology, and our fields of application are ever expanding. In this tradition, scientific principles have been our guide to best practice. Yet scientific principles alone may not be sufficient to guide our decisions in situations with potentially conflicting outcomes. In such cases, values function as guides to action and play a key role in helping us work through ethical quandaries. If it is true that operating without a lucid set of guiding principles can bring about grave consequences (Prilleltensky, 1997), then it

is in our best interest to have a working understanding of ethical systems that support values-based decision making in behavior-analytic practices. To this end, we will consider two separate philosophical approaches to behavior-analytic science each with its own ethically relevant consequences. From there, we will explore the relationship between values and scientific decision making from the tenets in each case. Specifically, we will examine the reaches and limitations of both systems in guiding decision making within situations involving value conflicts and ethical dilemmas. Finally, we will turn to philosophical pragmatism, focusing on the work of John Dewey, as a tradition that may help behavior analysts build a coherent knowledge and ethical system.

The first philosophical approach we will discuss is B. F. Skinner's radical behaviorism, which has been the philosophical framework of behavior-analytic science for over 60 years. In his treatment of values, Skinner dismisses the distinctions made by many philosophers between values and facts. In Skinner's naturalistic ethics, survival emerges as the ulti-

mate value and criterion by which to assess the worth of cultures and individual cultural practices. This leads to a question of practical importance, that is, can Skinner's ethical system provide a guide to action for scientists, particularly in situations with potentially conflicting outcomes? We review the work of two critics from within our own field who argue that Skinner's system cannot provide adequate guidelines for resolving ethical problems. Staddon (2004) considers research on smoking to illustrate and argues that Skinner's system requires science to function beyond its scope, making it unworkable. Zuriff (1987), on the other hand, takes issue with Skinner's construction of values and concludes that his naturalistic ethics cannot adequately justify survivability as a criterion to resolve ethical problems.

Next we review contextualism, a philosophical framework originally proposed by Pepper (1942) and advanced as a worldview for behavior analysis by Hayes (1993). It is within this philosophical framework that relational frame theory (RFT) (Hayes, Barnes-Holmes, & Roche, 2001) has emerged as an increasingly popular functional analytic account of language and cognitive phenomena. Within contextualism the personal values of the scientist are considered to be the basis for the development of scientific goals. Furthermore, personal values are indefensible and entitled to remain private, and pragmatic truth is established when the scientist's analytic goals are reached. In conflict situations, therefore, the fulfillment of the scientist's value-based personal goals is the criterion by which to assess the worth of the scientific practice. The scientist, in turn, is not in principle accountable to others in the scientific or broader community. This explicit stance on the scientist's accountability is reminiscent of the form of pragmatism developed by Machiavelli (1515/1947). Thus, we will consider some parallels between Machiavellian and contextualistic pragmatism and discuss moral considerations that may limit the adequacy of contextualism in guiding scientific decision making in difficult cases.

The potential confluence of values and scientific decision making can be clearly depicted with a case study from feminist science. One defining aspect of feminist science is its understanding of scientific activity as political activity, and its willingness to explicitly allow political values to help guide choices when faced with conflict situations. We discuss the work of biologists Longino and Doell (1983) to illustrate how values may be used as guides to action in scientific decision making when they are made explicit, and scientific knowing is conceived as participating in a social context. This case study will lead to the final section of the paper in which we consider the philosophical pragmatism of Dewey, whose work we believe is particularly relevant for our behavior-analytic community. For example, Dewey's approach to relativism and pragmatic truth, his reliance on scientific knowing, and his orienting assumptions about community and the communal aspects of inquiry can enrich our own discussions concerning the criteria we will use to develop ethical principles for ourselves. What we need, we believe, is serious and open dialogue on how we, as a community, can make valued ethical decisions and use them as guides to scientific action.

RADICAL BEHAVIORISM

B. F. Skinner's treatment of values begins with an observation about verbal behavior. Skinner (1971) tells us that "What a given group *calls* [italics added] 'good' is a fact: It is what members of the group find reinforcing" (p. 122). Moreover, he suggests that the "reinforcers that appear in the contingencies [of a culture] are its 'values'" (p. 121). Thus, "any list of values is a list of re-

inforcers" (1956, p. 35). The items on a list of values can be classified under three headings: personal good, owing to our biological susceptibility and genetic endowment; the good of others, derived from social reinforcement for positive social behavior; and the good of the culture, and the measures the culture uses to induce its members to work for its survival.

At the center of B. F. Skinner's (1956) analysis of values is his assertion that survival emerges as the ultimate value by which to assess the worth of a culture. Survival is the "ultimate criterion" (p. 36), and he compares the evolution of a culture with that of a species. Skinner (1971) described it this way:

A culture corresponds to a species. We describe it by listing many of its practices, as we describe a species by listing many of its anatomical features. Two or more cultures may share a practice, as two or more species may share an anatomical feature. The practices of a culture, like the characteristics of a species, are carried by its members, who transmit them to other members. … A culture, like a species, is selected by its adaptation to an environment: to the extent that it helps its members to get what they need and avoid what is dangerous, it helps them to survive and transmit the culture. (p. 123)

Although he posits survival as the criterion according to which a given culture is to be evaluated, he acknowledges that survival value is a difficult criterion for many to accept partly because it is often in direct conflict with traditional values. For example, he wrote,

There are circumstances under which a group is more likely to survive if it is not happy, or under which it will survive only if large numbers of its members submit to slavery. … In order to accept survival as a criterion in judging a culture, it thus appears to be necessary to abandon such principles as happiness, freedom, and virtue. … These difficulties appear to explain why those that are accustomed to the traditional values hesitate to accept survival as an alternative. We have no reason to urge them to do so. We need not say that anyone *chooses* survival as a criterion according to which a cultural practice is to be evaluated. Human behavior

does not depend upon the prior choice of any value. (1953, p. 432).

Thus, survival is a measure of effective action taken by a culture. In effect, Skinner applies a pragmatic truth criterion to assess a culture's worth. So, for example, we may say that a liberal democracy and an Islamic theocracy are both examples of survival-worthy cultures due to cultural practices that have collectively led to effective action in each case. Some may want to argue that the effective cultural practices that one or both of these forms of government rely on for survival are undesirable, in the same sense that slavery is undesirable. Such concerns, however true, are irrelevant if the criterion of goodness is the Skinnerian one: "A culture which *for any reason* induces its members to work for its survival is more likely to survive" (1971, p. 137). He recognizes this position as cultural relativism and spells out its implications that "Each culture has its own set of goods, and what is good in one culture may not be good in another" (p. 122).

One can see that B. F. Skinner's pragmatic approach to understanding truth (what works) and values (reinforcers) dismisses traditional notions that they can be understood as universally valid and arising from the power of a higher authority in the metaphysical sense, or as a private (rational) matter. According to Rorty (1999), "for pragmatists … there is no distinction of kind between what is useful and what is right and [therefore] no distinction between facts and values" (p. 73). Although Rorty was referring to the philosophy of John Dewey in this passage, his comments apply equally well to radical behaviorism. For Skinner, value-laden terms, such as *good*, function as tacts for reinforcers. Given that reinforcers are always functionally defined, it follows that values too may be understood functionally rather than as matters of metaphysics.

B. F. Skinner's Naturalistic Ethics

In developing a naturalistic ethic, Skinner distinguished clearly between what "ought" to be the case (i.e., evaluations) and what "is" the case (i.e., descriptions). Skinner (1953) recognized that "The word 'should' brings us into the familiar realm of the value judgment" (p. 428). He did not, however, dismiss value judgments but rather embraced them as part of the subject matter of a science of behavior. According to Skinner, it is not true that statements containing *should* or *ought* have no place in scientific discourse. However, it is important to provide translations of value statements in functional terms in order to reveal the relevant contingencies of reinforcement.

Day (1977) explained Skinner's ethics in the following way. Skinner's analysis of ethical injunctions involving statements of "ought" and "should" aims to peel away normative statements, including social norms, rules of conduct, and moral laws, to uncover the relevant controlling contingencies that are subtly embedded in them. So, for example, embedded in the statement "one should follow the rules of traffic" are indirect references to prevailing controlling contingencies (e.g., police are present and enforce the rules and keep the public safe) pertinent to the listener's behavior (e.g., if you do not follow traffic laws you will get a ticket or have an accident). Thus, because normative statements tact standards based on factual claims, we can bring evidence to bear on them (e.g., we have evidence of how the police operate to enforce traffic rules and data to show number of tickets and traffic accidents).

Thus we can see that Skinner's claim that science can contribute to the assessment of ethical matters relies on the evidence we can offer to justify cultural standards and the factual statements on which they are based (see Day, 1977, for an extended discussion). Skinner (1956) believed that such analyses take on particular importance in the context of cultural design and the evaluation of cultural practices. According to Skinner, science is in the best position to "enabl[e] us to predict the survival value of cultural practices" (p. 36).

Can B. F. Skinner's Naturalistic Ethics Provide a Guide to Action?

Critics within the field of behavior analysis (e.g., Staddon, 2004; Zuriff, 1987) have argued that Skinner's naturalistic ethics cannot deliver what it promises because it (a) requires science to function beyond its scope; (b) does not provide us with practical guidance, particularly in deciding difficult cases; and (c) cannot adequately justify survivability as a criterion to resolve ethical problems. We will now examine each of these claims in more detail.

Staddon (2004) argues that Skinner's ethics requires science to function beyond its scope and does not provide practical guidance when we consider difficult cases. He begins by questioning the validity of Skinner's presupposition that any given society can actually define what constitutes cultural fitness for the future. This would require reliable knowledge of the future, which Staddon argues is not fully achievable given the unpredictable nature of evolution. He then challenges Skinner's assertion that a scientific community can accurately predict the survival value of specific cultural practices and recommend best practices for the future. "Evolution is inherently unpredictable. Some practices whose benefits cannot be proved might nevertheless turn out to be good for the survival of the culture [whereas] others that seem to be good might turn out to be bad" (2004, p. 241). To illustrate, he considers smoking and its health hazards, citing statistics in the *New York Times* (Winter, 2001) from a recent study for the Czech Republic sponsored by the Philip

Morris Company. It reported that in a socialist economy in which the state must pay health care, housing expenses, and pensions, a population of smokers will be less costly to the state with benefit amounts of $1,227 per death. Staddon speculates that, ''perhaps a society that encourages smoking—which yields a generally short but productive life—will be more successful in the long run than one that discourages smoking and has to put up with a lot of unproductive [old] people'' (p. 239). Perhaps the same justification can be used to argue against (or for) stem cell research. If survival is deemed the ultimate criterion of value, then science cannot predict which values are appropriate because it cannot foresee which values will better aid survival of the culture.

Zuriff's (1987) analysis of Skinner's naturalistic ethics leads him to conclude that it cannot adequately justify survivability as a criterion to resolve ethical problems. Before considering Zuriff's case, let us briefly recall Skinner's position. Skinner argued that science can contribute to the assessment of ethical matters because it relies on obtainable empirical evidence that can be used to justify our factual claims. As an example, we might advance the following injunction about the role of cultural survival as a value: ''Scientists should apply cultural survivability as a criterion to resolve difficult ethical cases and make recommendations for future practices.'' Zuriff, however, takes issue with the idea that this injunction can be retained using functional analysis. Specifically, Zuriff points to Skinner's (1971) treatment of values that begins with an observation about how people use the word *good* in everyday talk. In Skinner's words, ''effective reinforcers are a matter of observation and cannot be disputed. What a given group calls 'good' is a fact: it is what members of the group find reinfor-

cing'' (p. 122). Zuriff argues that with this observation ''Skinner takes our normal use of the word 'good' as definitive and as the basis for his notion of good'' (p. 310). Zuriff then examines the implications of the verbal relations established by Skinner in arguing that ethical injunctions can be substantiated. To understand Zuriff's argument, let us represent Skinner's position in terms of equivalence relations (i.e., if A = B and B = C then A = C). Using standard and familiar equivalence nomenclature, we may refer to *good* as A, *reinforcers* as B, and *values* as C. Thus, from Skinner's perspective, A = B (i.e., good = reinforcers), and B = C (i.e., reinforcers = values). Now we recall that when we speak of *reinforcers* we are tacting events that enter into empirically observable relations. These relations are matters of fact because we must be able to observe the effects and functions of reinforcers in order to identify them as such. Thus, for Skinner, the equivalence that is derived between *good* and *values* (i.e., A = C) can be scientifically determined and questions of values can be settled empirically by science.

Zuriff (1987) argues that Skinner's construction is flawed. Specifically, if what we call good (A) is equivalent to our values (C), we should be able to offer empirical evidence of reinforcing functions (B) in order to obtain our equivalence relation. Moreover, if we are prepared to offer recommendations about what course of action we ''should'' or ''ought'' to take in a particular case, then as behaviorists, we should also be prepared to offer empirical evidence of reinforcing contingencies that bear on the recommendation as justification for these (Skinner, 1953; see also Day, 1977; Leigland, 1993). However, because survival for survival's sake is not equivalent to the tact ''good'' (A) for many groups, we will lack empirical evidence that cultural survival operates as a reinforcer (B)

in our analysis of the controlling contingencies that operate for said groups. We would therefore not be warranted in speaking of cultural survival as a value (C). In contrast to Skinner and his followers, such groups constitute distinct verbal communities. Zuriff describes these as distinct *values communities* whose disagreement with Skinner is "not over matters of fact … [and] science cannot appeal to survival as a criterion to decide among differing points of view because survivability is precisely what is at issue." Therefore, Zuriff concludes that Skinner's "naturalist ethics based on empirical observations of behavior cannot justify survivability as a criterion to resolve ethical problems" (p. 311).

The critiques offered by Staddon (2004) and Zuriff (1987) converge on the admonition that in conflict situations, Skinner's naturalistic ethics do not provide adequate guidelines for how to go about making decisions to maximize the culture's chances of survival. The first argument involves the reaches of science (Staddon). Specifically, whereas Skinner entrusts science with the responsibility to develop the analytic strategies that will allow us to predict the survival values of cultural practices, Staddon reminds us that "evolution is inherently unpredictable" (p. 241). Thus, we may not be able to fully ascertain potential benefits of objectionable practices or the long-term fallout of ones that seem advantageous. The second argument takes issue with the inherent logic in Skinner's formulation (Zuriff). Skinner takes existing verbal behavior (what members of a group call good = reinforcers = values) as the initial premise of his position. Interestingly, Skinner (1971) acknowledges that "each culture has its own set of goods, and what is good in one culture may not be good in another. To recognize this is to take the position of 'cultural relativism' " (p. 122). Because what different groups call good varies, we

cannot distill strict rules for choosing among goods. Without such rules, Skinner's formulation can give "sufficient but not necessary conditions for the good, and thus fails to tell us what we ought to do" (Zuriff, p. 313) to work towards optimal cultural fitness.

The foregoing conclusions hold true not only for the culture at large but also for the subculture of scientists who adhere to a pragmatic goal orientation and effective action as a truth criterion in establishing the validity of scientific beliefs. An interesting question thus arises: how do scientists choose those specific cultural practices that are to be the subject of inquiry regarding their utility in the long-term survival of the culture? More specifically, if, as Skinner suggests, contingencies of human survival will control the behavior of scientists in the long run, then what contingencies control scientific behavior in the short term? Skinner (1961) admits that "long-term consequences are usually not obvious, and there is little inducement to pay any attention to them" (p. 46). Zuriff (1985) suggests that in the short term, scientists will adopt whatever topics of study they individually find most rewarding. In effect, economic, social, and political contingencies will undoubtedly factor into the scientist's decision-making process (see also Fawcett, 1991; Glenn, 1988). Most, if not all, behavior analysts may indeed function with a view to advancing practices that are in the long-term interest of the culture, but the rules of evidence of scientific inquiry do not prescribe checks and balances for them to do so. Indeed, Zuriff noted that lacking agreement on goals, purposes, and definitions of effectiveness, controversies among individuals over best practices are in part disagreements over values. However, implicating personal values as contingencies for scientific activity was untenable for Skinner. In his words, "I cannot

agree that the practice of science *requires* a priori decision about goals or a prior choice of values … [because] any list of values is a list of reinforcers'' (1956, p. 35). Although a functional analysis of values in terms of reinforcers does indeed seem plausible, a growing number of behavior analysts have chosen to retain personal values as a core concept of their scientific practice. Within this particular group, personal values are taken as a starting point for scientific inquiry; Skinner's requirement for a functional analysis of values in terms of reinforcers is explicitly rejected. This is known as contextualism, and it is our next point of discussion.

CONTEXTUALISM

Hayes (1993) noted certain vagueness in Skinner's and other pragmatists' references to effective action. He interpreted this vagueness as indicative of dogmatism within radical behaviorism. More specifically, according to Hayes, dogmatism can be avoided by the clear exposition of one's a priori analytic goals. When the scientist states explicit goals ahead of the analysis, he or she creates a standard against which to assess the effectiveness of the methodology. When explicit a priori goals are not forthcoming, the scientist necessarily offers the scientific truth claim in the absence of a qualifying purpose of analysis and a means for assessing the relevant methodology's effectiveness. Thus, the claim is dogmatic and undermines pragmatism itself. For Hayes, the nondogmatic pragmatists recognize that their analytic goals are themselves arbitrary and fundamentally indefensible. In effect, the purposes of any given analysis are ultimately personal and subjective. Hayes therefore proposed that behavior analysis is better characterized by Pepper's (1942) contextualism than by traditional American

pragmatism (see also Hayes & Brownstein, 1986; Hayes, Hayes, & Reese, 1988; Morris, 1998).

Contextualists adopt a pragmatic stance on truth. The root metaphor of contextualism is the *act in context*. According to Pepper (1942), acts have a satisfaction in their completion (e.g., going to the train station), and this satisfaction applies equally to the observer and the observed. In effect, scientific analyses also have desired consequences that can be satisfied, and herein lies the truth criterion of contextualism—the achievement of desired consequences or valued ends.

One of the terms that Pepper (1942) uses to describe the truth criterion of contextualism is *successful working*. Successful working is an outcome concept that refers to reaching a goal or producing a desirable consequence to action. The terms *goal*, *purpose*, and *desirable consequence* all suggest that the important issue is not simply the presence or absence of any consequences, but the degree to which the consequence produced was part of the preanalytically specified outcome (Hayes, 1993). In other words, the pragmatic truth criterion is not foundational in contextualism, but the goals of the analyst are (Barnes & Roche, 1997). By allowing the scientist to evaluate the utility of a particular investigative methodology, the truth criterion is applied always in the service of moving him or her in the direction of the valued ends.

It is important to understand that in contextualism, ultimate goals cannot themselves be justified—they may only be stated. The attempt to justify a goal requires the specification of yet another more global goal. Moreover, any attempt to demonstrate the value of a goal via successful working requires yet another analytic goal. Thus, only local goals can be justified, and the choice of an ultimate analytic goal is taken to be a personal rather than an ontological issue.

Contextualists argue, therefore, that the use of a goal in contextualism cannot be dogmatic.

There are an infinite number of valued ends towards which the analyst may move. Hayes (1993) provides the following examples: to experience the harmony of events; to experience connections among events; to produce a consistency of beliefs; to understand and make sense of the world; to feel personally satisfied; to manipulate and control phenomena; to survive as a species, individual, or culture; to look intelligent; to speak nonsense; to get put into a mental hospital.

Once the behavior analyst has chosen a goal, he or she can assess the degree to which analytic practices have moved him or her towards that goal in the past and how likely they are to do so in the future. Implicit goals will not serve as well because post hoc narratives can always be constructed that make sense of any given outcome. Thus, only explicit goals can make successful working a trustworthy guide to analysis.

Contextualism appears to represent an extreme form of relativism. Indeed, the parallels between contextualistic behavior analysis and postmodernist critique have been noted (Roche & Barnes-Holmes, 2003), and the relativism of this philosophical position is underscored by the acceptability of an infinite range of purposes of analyses. Interestingly, these purposes can even be used to justify adopting epistemological strategies that are apparently antithetical to contextualism itself (e.g., mechanism; see Barnes & Roche, 1994).

Hayes (1993) has described two distinct forms of contextualism, descriptive and functional. Both involve treating personal goals and values as a priori starting points for analysis. However, the behavior analyst is not obligated to share those goals publicly as a necessary condition of analysis in either case. Whereas in descriptive contextualism the analyst need not specify observable criteria of successful analytic outcome, in functional contextualism, as in radical behaviorism, the analyst is required to identify operational dependent measures that may be used to assess the truth of a scientific claim. For the purposes of our discussion on science and values, we will focus primarily on functional contextualism.

Functional contextualism can be characterized as a radically pragmatic version of Pepper's (1942) contextualism and is associated with theoretical movements such as relational frame theory (RFT; Hayes et al., 2001) and acceptance and commitment therapy (ACT; Hayes, Strosahl, & Wilson, 1999). It is important to note that the functional contextualism proposed by Hayes (1993) is also distinct from the pragmatism of William James, Dewey, and Peirce.

In contrast to American pragmatism, functional contextualism escapes dogmatism by introducing a central role for personal values. However, this cannot be done without adopting a thoroughly relativistic stance on truth. It is within the context of this thoroughly relativistic position that concerns may arise over the value of the system itself for the wider community. First, this truth criterion creates an epistemological gulf between contextualists and noncontextualists such that research findings and even methodologies cannot be easily compared (see Barnes-Holmes, 2000). This raises questions about how radical behaviorists and contextualists can assess the value of each other's work and communicate on those matters meaningfully. This issue is not merely academic: Prominent theoretical positions such as RFT and ACT require proponents to be versed in contextualism. Indeed, it is argued that it may not even be possible to understand these theoretical positions without adopting a contextualist philosophy (see Barnes-Holmes & Barnes-Holmes, 2000;

Hayes et al., 1999). Of course, it might be argued that differing philosophical standpoints within any scientific community necessarily lead to internal communication rifts. Nevertheless, it merits consideration that the rise of contextualism heralds such a rift within what might be described as an already fledgling domain within the wider psychological community.

Second, the radical relativism of functional contextualism precludes the possibility of wide and meaningful discussion on the moral character of a given research program or knowledge claim. More specifically, because personal values are indefensible, the contextualist may remain silent when questioned about the value of a given research program or agenda (or he or she may not if speaking serves some other private or public personal goal). Obviously, this state of affairs makes moral assessment of the contextualist's agenda difficult if not impossible, except by reference to the observable consequences of research or practice once they have already been produced. Of course, some may argue that all science ultimately and rightfully takes place in a moral vacuum. The important point, however, is that functional contextualism as a worldview explicitly declares its immunity to moral responsibility to others by insisting that personal values are the only qualifiers for scientific activity and knowledge claims (see Barnes & Roche, 1997; Hayes, 1993). Such moral relativism may be of concern to some readers. However, the public declaration on the personal nature of contextualism's truth criteria may actually serve to safeguard against its misuse by alerting the community to the nature of the value system itself. In effect, such openness allows the behavioral community to make joint decisions on the moral character of a research program with the added knowledge of the relevant researchers' stance on moral accountability. Similarly, Skinner also suggested that

scientific practices cannot be ultimately morally assessed. However, by nominating the survival value of a given scientific practice as a truth criterion for that practice, he provided the community with an objective index by which to publicly assess the moral character of any scientific endeavor, at least from a radical behaviorist perspective.

It is of course the case that contextualists may take a moral position, declare that position publicly, and behave in as morally upstanding a way as any other citizen. It is also the case that scientists of other persuasions may be free to behave immorally while conducting research and making knowledge claims. In fact, it could be argued that contextualism actually increases our focus on ethical issues by making considerations of the long-term effect of scientific activity central to the system itself. In this way, the focus on ultimate personal goals may be seen as a call to enlightenment that will likely benefit the whole community in the long term. Nevertheless, functional contextualism adopts an explicit stance on moral accountability to others that merits discussion by the wider behavior-analytic community. As an illustration of the need for such a discussion, we will consider a form of pragmatism developed by Machiavelli that adopts a stance on moral accountability that appears, at least at face value, to be similar to the functional contextualist stance. Although Machiavellianism and functional contextualism are not to be equated, the moral considerations to be made regarding both have much in common.

Machiavelli and Moral Accountability

Machiavelli devised a loosely pragmatic philosophy of political behavior that could be used equally for good or evil, however conceived. Nevertheless, the very moral relativism of the position has concerned the public and philosophers alike since it was first espoused in *The Prince*

(1515/1947). Some passages from that book are appropriate to illustrate the types of moral considerations that arise when a thoroughly relativistic position on truth is adopted by individuals who are in a position to establish contingencies for the behavior of others (e.g., politicians, behavior therapists, and teachers).

Niccolò Machiavelli was born in Florence, Italy, in 1469. He served as a diplomat for the city and in this role observed the behavior of Italy's most effective leaders. These observations became the basis for his treatise on political philosophy. Specifically, Machiavelli had noted one flaw from which all failing leaders suffered; inflexibility in the face of changing times. In other words, in changing times, staunch moral principles were a leader's Achilles' heel. According to Machiavelli, leaders can be more successful at maintaining power if they accommodate their personalities to the exigencies of the times. Moreover, whereas traditional Italian leaders tried to curtail their lust for material wealth and prestige, Machiavelli preached the acquisition of personal glory and riches. Previous rulers and such statesmen as Cicero had equated the practical with the moral, arguing that expediency in political affairs should never conflict with moral matters. Machiavelli, in contrast, criticized traditional humanism by suggesting that a leader who wishes to reach his goals will sometimes find it necessary to behave immorally. In fact he stated that any attempt to develop an inflexible moral code for conduct would be a ruinously irrational policy. When questioned about whether or not a leader will be answerable to some deity or to their own conscience, Machiavelli remained silent. Q. Skinner (1996) commented that Machiavelli's "silence is eloquent, indeed epoch making; it echoed around Christian Europe, at first eliciting a stunned silence in return, and then a howl of execration that has never finally died away" (p. 42).

Many challenged Machiavelli to suggest how leaders were to conduct themselves if not in accordance with moral guidelines. To this Machiavelli replied that a wise leader will be guided above all by the dictates of necessity. Moreover he must always be ready to act in any way necessary to obtain his personal goals. To create consistency between his radically relativistic ideas on truth and morals and the public's desire for princely virtue, Machiavelli simply altered the traditional meaning of *virtú* for princely behavior. Specifically, whereas *virtú* previously referred to the cardinal virtues, Machiavelli used this term to refer to the behavior of any leader who is willing to betray these very virtues to get whatever it is he seeks, usually power and riches. Thus, the truly virtuous prince will do whatever is dictated by necessity; the ends always justify the means. Interestingly, this move parallels the functional contextualistic stance on truth in which truth has been defined as the correlation between action and the achievement of personal (and optionally private) goals.

Machiavellianism and functional contextualism also share the arguably regrettable feature that they create unbridgeable intellectual gulfs between themselves and the traditions from which they have arisen (i.e., humanism and radical behaviorism, respectively). More specifically, it has been noted by functional contextualistic writers that differences in personal philosophy between traditional radical behaviorists and functional contextualists may render communication on research findings and theoretical developments difficult or impossible. This problem arises because the traditional radical behaviorist may not always appreciate the infinite flexibility of the contextualist's theoretical perspective (Barnes-Holmes & Barnes-Holmes, 2000), methodology (Barnes & Roche, 1994), and view of the nature of psychological phenomena (Hayes et

al., 1999). Similarly, Machiavelli declared that his new code of conduct had created an irreparable schism between humanism and Machiavellianism that he was neither capable of nor interested in bridging (see Q. Skinner, 1996). The emergence of this gulf is particularly ironic given that the contextualistic stance within behavior analysis has emerged directly from radical behaviorism and the shared emphasis on the individual organism and the role of the scientist in analysis. Just as Machiavellians are free to use their philosophy for good or ill, contextualists are free to behave in ways that appear moral to some and immoral to others. The important point, however, is that at no time are contextualists or Machiavellians ultimately accountable to the wider community, and both have commented on their commitment to this state of affairs. It is worth repeating that although this stance on moral accountability does not suggest moral disrepute, these issues appear to merit consideration within a community of scientists whose endeavor is the betterment of the lot of others. It is simply not good enough to note that the peer review and publication process will ultimately unearth morally unacceptable behavior on the part of scientists, even though this is almost certainly the case. The community deserves a level basis on which to discuss the various agendas of different research programs, not just the immediate moral content of individual studies. The former may be elucidated quickly through open discussion; the second will typically emerge slowly after an unacceptable research program has already made its impact (e.g., politically motivated research into race and intelligence).

We believe that it is time for behavior analysts to consider seriously where we as a community stand on relativism and to discuss openly and thoroughly the criteria we will use in adopting ethical principles for our community (other than the generic codes of ethics provided by national organizations such as the American Psychological Association to which only our North American members submit). Without such a discussion it is difficult to see how we can provide the appropriate verbal contingencies to produce scientific behavior appropriate to our community in therapeutic and academic contexts. What is needed, in effect, is a discussion of how we, as a community, can make valued ethical decisions and use them as guides to scientific action.

COMMUNITY VALUES AS GUIDES TO ACTION AND SCIENTIFIC DECISION MAKING

The role of values and the status of moral accountability in behavior analysis are complex issues. Radical behaviorism and its recent offspring, functional contextualism, are philosophies of science that hold very different stances on the nature and function of values in behavior-analytic practices. The implications of these philosophical differences for our field are broad and important. A detailed discussion of these is beyond the scope of this paper, but our immediate concern is twofold: first, to consider general ways in which values can influence practitioners and scientists, particularly as guides to action and decision making, and second, to summarize the potential of our value systems as guides to action for behavior analysts.

Let us briefly examine an illustration from the feminist research tradition to point out the confluence of science and political values. Scientific knowing does not evolve in a cultural vacuum. The structuring of scientific knowing takes place within social and cultural contexts that include individual and group preferences about what ought to be. Longino (1989) refers to these personal, social, and cultural influences as contextual values, and she reminds us that the rules of evidence of scientific inquiry are not

adequate to screen out their influence. Although a scientist can make explicit value commitments and still produce good science, our focus should be on examining the assumptions scientists actually hold when they decide between conflicting generalizations (Potter, 1988). Let us consider as an example Longino's collaborative work with biologist Ruth Doell. Part of their work (Longino & Doell, 1983) has been to critique theories of hormonal influence and determination of gender-role behavior that assume only two genders in the designation of appropriate and inappropriate behaviors for male and female children. Longino and Doell admit to a political commitment that presupposes a certain understanding of human behavior and ''when faced with a conflict between these commitments and a particular model of brain-behavior relationships, we allow the political commitment to guide the choice'' (Longino, 1989, p. 53). It is important to stress that the adopted values-driven models will determine the relevance and interpretation of the data, not the other way around. When scientific knowing is conceived as participating in a social context, objectivity has to be viewed as a function of the communal structure of scientific inquiry rather than merely a property of the behavior of the individual scientist.

Values and Scientific Decision Making in Behavior Analysis

For B. F. Skinner, moral and ethical issues refer to the customs of groups, and the main effect of a culture is to bring the individual under the control of remote consequences of behavior. This effect has survival value, and science plays a key role in producing it, and in enabling us to predict the survival value of cultural practices. As Skinner put it, ''survival is the ultimate criterion'' (1956, p. 36), and recommendations for what we ought to do follow from this analysis. Skinner (1971) stressed that these must be accompanied by justification in the form of empirical evidence of relevant controlling contingencies (see also Day, 1977; Leigland, 1993). As we have seen, the problem with cultural survival as the ultimate value and criterion for decision making is that we cannot distill adequate rules for deciding from the available courses of action.

In contrast to radical behaviorism, functional contextualism takes a radical position on pragmatic truth and the role of personal values in its establishment. This position shifts the criterion from publicly observable effective action to the fulfillment of value-based personal goals. The latter, in turn, are indefensible and entitled to remain private. Unlike the radical behaviorist, the contextualist has no obligation to provide empirical justification for recommendations derived from a research program once analytic goals are achieved, and no accountability to either the scientific community or the community at large is necessary as a rule. The primacy of the individual scientist working in the context of personal private values without accountability to others (except when chosen for personal purposes, such as survival as a research scientist) opens the possibility for a science that is anticommunitarian and in which the individual scientist can legitimately seek only his or her own welfare.

JOHN DEWEY AND PHILOSOPHICAL PRAGMATISM: PARALLELS AND POSSIBILITIES FOR PRODUCTIVE INTERPLAY

Although radical behaviorism and functional contextualism offer disparate approaches to values, behavior analysts in both traditions are committed to a pragmatic goal orientation and stance on truth, and the alignment of behavior analysis with pragmatism has been widely noted

(e.g., Baum, 1994; Day, 1977; Hayes & Brownstein, 1986; Lamal, 1983; Morris, 1993; Schneider, 1997). In keeping with Day and Moore's (1995) recommendation that behaviorists engage in productive interplay with philosophical accounts, we look to Dewey (1958), one of the three founders of philosophical pragmatism, whose work may be particularly helpful to behavior analysts (Schneider, 1997).

As a leading figure in American functionalism, Dewey drew heavily from Darwinian theory and focused on familiar themes of adaptation, coping, and survival. These are themes behaviorists readily recognize as central to B. F. Skinner's discussions of behavioral functions as well as values. Skinner's approach to ethical problems reaches back to the work of Dewey and Ralph Barton Perry on naturalistic ethical philosophy (Day, 1977), and both Dewey and Skinner rejected the fact–value dualism often assumed in ethical inquiry. Dewey and Skinner shared a passion for social issues and a commitment to promoting progressive cultural practices with a view towards a better future. The role of science in this endeavor was important to both. Dewey makes note of what we stand to lose if we fail to look to science for direction:

Since scientific methods simply exhibit free intelligence operating in the best manner available at a given time, the cultural waste, confusion and distortion that results from the failure to use these methods, in all fields in connection with all problems, is incalculable. (cited in Putnam & Putnam, 1990, p. 407)

Dewey's message will likely remind behavior analysts that over the years, and to the end, B. F. Skinner (1990) made it clear that hope for the long-term survival of our species rests on scientific inquiry:

We see the continuing evolution of the culture we call science. Scientists are discovering more and more about the future consequences of what we are doing. … If what can be known about the future [were to become] part of the history of enough people, the earth may last a longer time. (p. 105)

The relevance of Dewey's work for our present discussion can be most clearly appreciated if we consider his orienting assumptions about community and scientific inquiry. Dewey's views on the relational and communal structure of scientific inquiry have been likened to those of contemporary feminists (Heldke, 1987; Rorty, 1999; Ruiz, 2001). His sense of community reflects the influence of evolutionary principles in that he emphasized pluralism and the importance of creating maximal conditions for individual variation within groups. The highest source of authority in Dewey's community is agreement reached by members through free (nonforceful, noncoercive) and open discussion. Dewey's inclusive community is focused on making the future better than the present, but for Dewey, survival included bringing as many others along as possible. We should recall that Skinner also recognized the benefits of cultural pluralism (see Ruiz, 1995), and he warned that "a culture which made people as much alike as possible might slip into a standard pattern from which there would be no escape" (1971, p. 162). Rorty (1999) characterizes Dewey as an antiauthoritarian philosopher of human freedom (as in noncoercion) and social justice devoted to utopian social hope, and "the most useful and most significant figure in twentieth-century philosophy" (p. 49). As a pragmatist, Dewey of course understood that what is good for one person or group to believe may not be good for another person or group. Dewey's strategy was to avoid the topic of truth and talk instead of justification (see Lamal, 1983) in both science and morals. Rorty explains that Dewey, and pragmatists in general,

see scientific inquiry not as aimed at truth, but rather at better justificatory ability—better to

deal with doubts about what we are saying, either by shoring up what we have previously said or by deciding to say something different. The trouble with aiming at truth is that you would not know when you've reached it. But you *aim* at ever more justification, the assuagement of ever more doubt. Analogously, you cannot aim at "doing what is right," because you will never know whether you have hit the mark. Long after you are dead, better informed and more sophisticated people may judge your actions to have been a tragic mistake, just as they may judge your scientific beliefs as intelligible only by reference to an obsolete paradigm. ... Scientific progress is a matter of integrating more and more data into a coherent web of belief. ... Moral progress is a matter of wider and wider sympathy. (pp. 81–82)

As behavior analysts endeavor to build a coherent system from which to promote effective cultural practices, we recognize that as pragmatists we are not searching for solutions that are ultimately "true" or "right." We are instead making decisions about the best possible courses of effective action. When the decision is difficult because the case is not clear-cut, we may do well to recall Dewey's notion of community. Echoing this notion, Leigland (2003) reminds us that as pragmatists, "we have the *shared* [italics added] goals of being part of a scientific community" (p. 303) to rely on. We may also want to turn to Dewey as one of the leading figures in the pragmatist tradition as we attempt to establish an acceptable means of deciding on moral matters. Dewey suggests that we seek wider sympathy through dialogue rather than narrowing the context of debate to the solitary individual or scientist working towards personal private goals. A strong participatory research tradition already exists within behavior analysis, and many will recognize Dewey's notion of community reflected in the research model built by behavior analysts who work in community psychology and action research (Fawcett, 1991; Fawcett, Fletcher, & Mathews, 1980; Fawcett, Francisco, & Schultz, 2004; Jason & Glenwick, 1980; Johnson & Geller, 1980)

CONCLUSION

It might be useful for behavior analysts, particularly practitioners who must make recommendations for the improvement of cultural practices affecting people's lives, to consider adopting these Deweyian orienting assumptions about community and the communal aspects of inquiry. Blueprints for this approach are already available in the work of behavior analysts who work in community psychology (see Fawcett, 1991). Dewey's inclusive community requires members to reach agreement through free and open discussion and can therefore contemplate crosscultural dialogue. This stands in sharp contrast to isolated communities and cultures that struggle individually for survival. Dewey's emphasis on pluralism rejects excluding particulars from the multiplicity of "goods" without first engaging in strenuous effort at understanding the perspective of the "other." In contrast to closed communities fighting for survival, cooperative dialogue can lead to open communities that broaden themselves in the process.

Orienting assumptions compatible with Dewey's are held by numerous scientists within the feminist scientific community, many members of which share a pragmatic goal orientation with behavior analysts (Ruiz, 1995, 1998). Feminists stress that scientific activity is a means to achieving solutions to practical problems, and as such it is also political activity. Although communal consensus is not a logical requirement for establishing the scientific validity of pragmatic truth, political activity, whether in the form of scientific or activist practices, requires community and consensus building. Indeed, Rorty (1982) reminds us that once a pragmatic line is adopted, there are two possible ways to go. Following De-

wey, we can emphasize the moral importance of behavioral science and its role in widening and deepening our sense of community and the possibilities open to our own community. Or, following postmodernist Michel Foucalt, we can emphasize behavioral science as an instrument of domination. Rorty sees the distinction between Focault's ''knowledge as power'' and Dewey's ''knowledge as human solidarity'' as a distinction over what we may hope for our science, our culture, and ourselves. We offer the foregoing thoughts in the hopes that they will stimulate further discussion about our community's aspirational goals, our values, and our visions for the future of behavior analysis.

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