The Explanatory Power Of Radical Behaviorism

Barry Schwartz  
*Swarthmore College*, bschwar1@swarthmore.edu  

Hugh Lacey  
*Swarthmore College*, hlacey1@swarthmore.edu

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14. The Explanatory Power of Radical Behaviorism*

HUGH LACEY AND BARRY SCHWARTZ

B.F. Skinner's radical behaviorist program has always been bold, distinctive, significant, and far-reaching. It has also been controversial, for it has involved commitments to the following views.

1. All human behavior is lawful. It is explicable in terms of principles (laws, regularities, generalizations) that can be discovered and confirmed in experimental studies in the laboratory.

2. For the bulk of human behavior, including verbal and purposive behavior, these generalizations involve only current relations between behaviors and environmental factors, together with a person's past history of such relations. Other variables, whether from physiology or from cognitive psychology, are not needed to express these generalizations (see Skinner, 1945, for qualifications of this view).

3. In the light of these generalizations significant controls may be exerted over human behavior, controls that, as they are progressively implemented, promise to resolve major social problems.

4. The achievement of widespread control, both experimental and technological, is a crucial factor, alongside prediction, in evaluating the explanatory claims of a research program.

Skinner recognized that these commitments presuppose a particular view of the human person. He summed it up in these words: 'A person is not an originating agent; he is a locus, a point at which many genetic and environmental variables come together in a joint effort' (Skinner, 1974, p. 168). Acknowledging this view led him to propose a fundamental revision of our discourse about human

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persons and societal relations, a revision that challenges the assumptions that maintain liberal social and political institutions, and indeed the way we think about moral and political issues in general. This chapter is motivated by the question: is there sufficient support, either theoretical or empirical, for Skinner’s commitments for one to take his views as a serious guide to action? We will be concerned principally with evaluating the comprehensiveness of the explanatory power of radical behaviorist principles.

EVALUATING COMPREHENSIVENESS

How, then, can the comprehensiveness of behavior principles be assessed? Many refuse to address this question, regarding it as nothing more than distracting speculation, incapable of serious answer until the radical behaviorist research program is much further along. Indeed some become impatient even with Skinner himself when he draws out far-reaching, and thus far unsupported, implications of radical behaviorism. They perceive that such speculation provides an easy target for criticism, while doing little to further the science of behavior. Therefore, before we present our main argument about how comprehensive radical behaviorist principles are, a little needs to be said about why an assessment of comprehensiveness is important, even, or perhaps especially, at this stage of scientific development. There are at least three important reasons for assessing comprehensiveness. They apply to any research program, in any science.

1 A research program (Lakatos, 1978; see Lacey, 1980, for application to behaviorism) provides positive guidelines for research, in large part by constraining what constitutes proper research — what are proper methods, research strategies, and hypotheses. It can be said to be defined by an object of inquiry (e.g., behavior), and by a broadly sketched class of parameters whose effects it systematically and progressively investigates to include more, more complex, and more significant features of the object of inquiry within its explanatory compass. It provisionally assumes that the class of parameters it investigates is broad enough to encompass the object of inquiry. Without a preliminary charting of the general, fundamental features of the object of inquiry, and a plausibility argument that the parameters in question could fully explain it, there is no ground for restricting inquiry in the manner required by the research program. General methodological arguments, dissociated from the specific object of inquiry, cannot provide such a ground (see Lacey, 1974). Thus, for example, the study of behavioral and environmental parameters, and not of cognitive ones, requires a substantive and not just a methodological defense.

2 As Skinner (1971) makes clear, there is a contradiction between the conception of human behavior that informs the behaviorist research program and that which informs dominant social practices. If the latter conception is correct, the behaviorist program cannot produce a comprehensive explanatory account of behavior. Alternatively, if the behaviorist conception is correct, and if it were to become widely accepted, social practices justified by the other conception would be undermined and
displaced. There is no room for compromise here: either the behaviorist program is importantly incomplete, or important social practices are ill-conceived. If the research program is incomplete, sound research must extend beyond it to those features of behavior that cannot be encompassed by the program. In order to uphold any claim to the priority of the behaviorist program then, a strong plausibility argument supporting its comprehensiveness is essential.

3 Behaviorists tend to pursue vigorously the application of their discoveries, and for many application constitutes the principal rationale of experimental inquiry. An application is licit only if two conditions are met: first, that it succeeds in bringing about the desired effect; and second, that it does not produce any undesired side-effects. Experiment can settle the first condition. To settle the second, one needs to explore the range of variables on which the applied procedure could have an impact. Suppose, for example, that it is true that behavior is almost exclusively controlled by prevailing contingencies of reinforcement coupled with the organism's past history of reinforcement. If so, one need not look beyond the scope of behaviorism to check for side-effects, and we could reasonably expect that a procedure that merely recasts the prevailing contingencies would not produce adverse effects on human beings. But our expectancy would be different if important behaviors were not explicable in terms of behavioral principles, but instead required, let us say, an appeal to principles of cognitive psychology. Then, achieving control through an applied procedure could well involve the modification of cognitive factors that behavioral principles do not encompass though they may be of central human significance. An example of this sort of side-effect is Schwartz's (1982) demonstration that a history of reinforcement for successful individual responses impaired people's ability to discover generalizations efficiently. Since applied behavior analysts rarely evaluate the licitness of applications in the light of the posits of rival research programs, or the presuppositions that underlie dominant social practices, it follows that their presumption of the licitness of routine application of behavioral principles rests upon a positive assessment of the comprehensiveness of the behaviorist program (see Lacey, 1979).

**IS BEHAVIORISM COMPREHENSIVE?**

Now that it is clear that an assessment of behaviorism's comprehensiveness is important, it is time to make the assessment. Skinner has maintained that his commitment to comprehensiveness is required if one adopts a scientific stance towards human beings. Certainly, its apparent plausibility is supported by the success of radical behaviorism's scientific research program. It has now been demonstrated in countless experiments that there are principles of the type cited by Skinner, and the range of their manifest exemplification continues to expand (see Schwartz, 1984, for a review). Equally important has been the success of applied behavior analysis, the application of experimentally derived principles to generate control in certain institutions and social contexts.

However, these successes do not tell us how comprehensive radical behavior-
ist principles are. That is because experimental and applied settings, those in which the explanatory power of behavioral principles is clear, have significant characteristics that are lacking in a large and important class of ordinary social settings. They tend to be relatively simple, with few salient variables operating. They are constructed by some human beings to satisfy certain explicit ends, ends that involve the successful control of other human beings (or experimental animals). How comprehensive behavior principles are cannot be settled only by investigation of experimental and applied settings, just as the comprehensiveness of the physics of motion is not settled by the study of objects in a vacuum, or by the construction of cannons. We believe that there are clear limits to the comprehensiveness of behavior principles, and we now turn to the kind of argument that can support this negative assessment. The issue is difficult and complex; it is the kind of issue where a missing of the minds frequently occurs. The reason for this is that we are not asking whether behavior principles currently are comprehensive. On this there is virtually no disagreement; everyone acknowledges that there is still much work to be done. Rather, what we are asking, and answering negatively, is whether behavior principles are in principle comprehensive. To show that behavior principles cannot produce a comprehensive account of behavior, we must show that there are behaviors that principles consistent with the constraints of the research program cannot explain. How can this be done?

There is both constancy and change as a research program unfolds. Its conception of the object of inquiry and of the parameters worthy of investigation remains more or less constant. The behaviorist commitment to behavior as the object of inquiry, and to certain current and past environmental factors as parameters, is an example of this constancy. While this formulation of the constraints of the research program is quite general, it does conflict with other conceptions, for example, that verbal and purposive behavior are expressions of mental events. While what should be studied is not logically entailed by the behaviorist conception, it does set limits. Reinforcement, punishment, discriminative control, etc. can be studied; mental states cannot. The research program imposes constraints; it rules out some things.

On the other hand, the appropriate, specific set of parameters can change. It can expand, as when Skinner added the domain of operant to that of respondent conditioning. Or it can be transformed in a more fundamental way, as in recent attempts to incorporate behavioral principles into the broad framework provided by micro-economic theory (e.g., Rachlin et al. 1976). Such attempts should be viewed as progressive developments of the behaviorist research program, rather than as the introduction of a rival, because (1) the parameters employed in the economic model all fit the radical behaviorist constraints; (2) the economic model retains previously established behavioral principles as special cases, not as ad hoc additions; (3) it has expanded the range of phenomena of which behavioral principles offer explicit and detailed explanations; and (4) it opens up new, potentially fruitful areas of research. Given the possibility of this kind of transforming change within the behaviorist program, it is even more important to emphasize that any argument for the limits of behaviorist explanation must be applicable to the general conceptions that define the program, and not merely to the specific set of principles currently known.

We expect a serious argument for the inherently restricted explanatory power of the radical behaviorist research program to spring not from a formal proof that
behaviorist principles must be inconsistent with certain data, but from the positive achievements of an alternative scheme. The relevant positive achievements would be the following.

1. The alternative offers explicit and detailed explanations of a certain class of phenomena.
2. These explanations employ parameters that violate the constraints of the behaviorist program.
3. These explanations have some empirical support.
4. Behavioral principles currently offer no explanation of this class of phenomena.
5. The class of phenomena that the alternative scheme explains consists of behavior that is reasonably regarded as characteristically human.
6. The alternative scheme is fruitful, either with respect to defining and solving research problems, or with respect to providing an aid to practical concerns.
7. The alternative scheme produces the current behavioral principles as special cases, obtained when either one or more specified variables are held constant, or under special, explicitly stated, environmental conditions.
8. The presuppositions or theoretical principles of the alternative scheme imply that there exist regularities relating behavior to environmental factors, past and present, only in settings in which specified variables are held constant or in which specified environmental conditions obtain.
9. Repeated efforts to extend the behaviorist research program, as a generator of fruitful research, to settings in which the specified variables are not held constant, or specified environmental conditions do not obtain, have failed.

We regard the demonstration of this list of achievements by an alternative scheme to behaviorism as necessary and sufficient to show that behaviorism is inherently incomplete. Moreover, such achievements would also serve to define positively the limits of behaviorist explanation, by specifying which variables had to be held constant, or which environmental conditions had to exist, for behavioral principles to provide a satisfactory explanation of behavior. The production of such an alternative scheme would not logically compel the rejection of behaviorism. However, it is not easy to see what grounds could be used to defend continued allegiance to behaviorism. One could not appeal to comprehensiveness since, in the stipulated circumstances, behaviorism has been shown not to be as comprehensive as the alternative. One could not appeal to fruitfulness since, again by stipulation, there is at least one significant domain in which the alternative scheme is more fruitful. And one could not appeal to the power to control behavior that behavior principles yield since, once more by stipulation, that power is restricted to a specified set of situations.

AN ALTERNATIVE TO BEHAVIORISM

A suitable alternative to behaviorism could, in principle, come from either of two sources. It could come from a rival scientific research program, such as cognitive
psychology. Or it could come from an explanatory scheme whose origins lie in practical life rather than experimental research, such as that of teleological explanation (Taylor, 1964). Whether or not they actually meet our stringent requirements, it is fair to construe the critical arguments against behaviorism by Chomsky (1959) and Fodor (1975) as attempts to provide an alternative scheme from psycholinguistics and cognitive psychology. This is certainly a proper source of an alternative to behaviorism if one shares with behaviorism the commonplace scientific presupposition that behavior is lawful. We will not here evaluate arguments that spring from rival scientific research programs.

Instead, we will point to the limits of behaviorist explanation from the perspective of the explanatory framework universally used in the deliberations of practical life — that of teleological explanation. Let us begin by acknowledging that behaviorist principles are manifestly exemplified in settings (both experimental and applied) in which control is established. These settings exhibit the following characteristics: only a few reinforcers are available, and usually one has special salience; the experimenter (behavior modifier) has control over conditions of deprivation and access to the reinforcers; there is only one, or at most a few, available means to the reinforcers; the performance of clearly defined, specific tasks is reinforced; different tasks are effectively interchangeable for the one that is reinforced; the schedule of reinforcement is externally imposed and varied by agents not themselves being subjected to the contingencies; there are no effective alternatives to being in the setting.

We will call settings that exhibit these characteristics closed settings. Clearly, settings can be more or less closed. The argument that follows suggests that the exemplification of behavior principles should become increasingly discernible as the setting becomes increasingly closed. Demonstrating that behaviorism has explanatory success in closed settings does not suffice to show that its explanatory principles are comprehensive, if not all settings are closed. And many ordinary social settings are not. We now sketch an argument, the details of which can be found elsewhere (Schwartz and Lacey, 1982, Ch. 9; Schwartz, Schuldenfrei and Lacey, 1978) that the explanatory power of behaviorism is limited to closed settings. The argument is empirical in character, though primarily based on sociological and historical rather than experimental considerations.

Experimental and applied settings are closed, and they were constructed by behavioral psychologists in order that control be obtained in them. As a step toward exploring the possible exemplification of behavioral principles in open (that is, non-closed) settings, we asked if they are manifestly exemplified in any setting of our society that was not constructed in the course of applying known behavioral principles. There is one such setting, parts of the modern, factory workplace. If this setting were paradigmatic of social settings in general, we would be well on the way to defending the comprehensiveness of behaviorism. But it is not, for two reasons. First, while this setting is ubiquitous in the modern world (decreasingly so in the first world, increasingly so in the third), there are important courses of action (for example, creating and running the factory, or engaging in science) that are not encompassed by it. That is, behaviorists may be able to account for the person's behavior within the closed setting, but they cannot account for their own behavior in establishing it. Second, this setting, as a significant social phenomenon, is a recent historical development, and is wide-
spread only in industrial societies. We reached this second conclusion on the basis of the following observations (Schwartz, Schuldenfrei and Lacey, 1978).

1 Medieval work, the precursor to modern work, cannot be analyzed as exemplifying behavioral principles, because it was variegated, flexible, and socially integrated.

2 Important features of the modern factory workplace emerged slowly during the nineteenth century. As they emerged, certain customary and traditional work practices were suppressed and gradually replaced by wages as the worker's predominant concern in the workplace.

3 Only with the suppression of these traditional practices did behavior in the workplace become describable and explicable in informative detail in terms of behavioral principles.

4 The structuring of the modern workplace was completed under the heavy influence of the scientific management movement at the turn of this century, in the light of principles virtually identical to those of behaviorism.

We conclude from these observations that those settings in which behavioral principles are manifestly exemplified are not generally characteristic of human societies, but have been constructed in the course of recent history. Moreover, although they are not the product of applied behavior analysis as we know it today, they are also closed settings, in which money is the salient reinforcer. The factory workplace, then, does not constitute evidence that behavioral principles are exemplified outside closed settings. That this is so is bolstered by the fact that as one moves to more open settings, in which external control is minimized, desired outcomes are the product of lengthy, variegated, and often novel activities, and plans and actions are shaped in the course of study and discussion, behaviorist descriptive categories become less and less useful for providing illuminating descriptions. Instead they become more metaphorical, more parasitic on other conceptual schemes, and more dependent upon appeals to the complex or unknown. A striking example of this is how 'reinforcement' tends to take on a vague, metaphorical usage, marred by an oft-repeated conceptual confusion.

Radical behaviorists often assert that their fundamental principle is: ‘behavior is under the control of its consequences’, which they usually take to be equivalent to: ‘behavior is under the control of contingencies of reinforcement.’ Thus, any consequence that controls behavior necessarily becomes a reinforcer, from which it is often inferred that any goal of a human action is a reinforcer. Since behavior in most open settings is goal-directed, that is, is performed in order to bring about certain consequences, the inference would imply that this open-setting, goal-directed behavior is controlled by reinforcement. In order to see that this inference is invalid, note that within behavior theory, ‘behavior is under the control of contingencies of reinforcement’ has the very precise meaning: ‘behavior occurs because of the contingencies of reinforcement in which earlier instances of the behavior have been involved.’ But behavior may occur in order to bring about a certain consequence without previous instances of the same kind of behavior ever having been reinforced, or even having occurred. The invention of the ‘Skinner box’, for the convenient study of free-operant behavior, and of concurrent reinforcement schedules, for the convenient study of choice,
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and of ‘mands’ and ‘tacts’ for the analysis of verbal behavior are just a few examples. Also, within behavior theory something is a reinforcer only if it increases the probability of the behaviors on which it is contingent. But there are many goals for which a person may act that do not have this property, goals that, once achieved, render irrelevant or unnecessary the further repetition of the behaviors that eventuated in the achievement of the goals. For example, once Skinner and his collaborators reached the goal of having discovered generalizations about schedules of reinforcement, they moved to other experimental inquiries. Such goals are not reinforcers.

We have concluded that there is no evidence that behavioral principles are exemplified outside closed settings, and that in open settings, radical behaviorism offers neither explanations nor illuminating descriptions. For completeness, our argument would require demonstrating the inadequacy of Skinner’s ‘interpretations’ of verbal behavior (Skinner, 1957), but we lack the space to do so here (see Lacey, 1974). In contrast, teleological categories (goal, expectancy, plan, reason, intention, etc.) are routinely successful in capturing order in human action, and in expressing the detail, sequence, novelty, and significant variation that human behavior displays. They are used in historical inquiry and social commentary, and universally in charting the human environment as an apt guide to action. The framework of teleology satisfies all the criteria we identified earlier that a serious alternative to behaviorism would have to meet.

1. It offers explicit and detailed explanations of a certain class of phenomena—goal-directed behaviors in open settings.
2. These explanations employ parameters (intention, purpose, deliberation, etc.) that violate the constraints of the behaviorist program.
3. These explanations have empirical support; we use them effectively to make sense of most aspects of daily life.
4. Behavioral principles currently offer no explanation of this class of phenomena, as we have argued above.
5. The phenomena that the teleological framework explains are characteristically human.
6. The teleological framework is fruitful; it provides the categories that enable effective interaction and deliberation in practical life.
7. It treats current behavioral principles as special cases, generalizations that obtain when, and only when, the conditions defining closed settings obtain. In these settings behavior is still purposive; that it exhibits law-like regularities is a consequence of the limited options and means to bring them about that characterize closed settings. Behavior in these settings is a special, albeit in our historical epoch, common case. Put another way, goals become reinforcers only under the conditions of closed settings, and behavioral principles are exemplified only when key conditions that prevail in open settings are suppressed.
8. More generally, the presuppositions of teleological explanation (see below) imply that there exist regularities relating behavior to environmental factors, past and present, only when environmental conditions are held sufficiently constant that intelligent variation of goals is not likely to occur.
9 Repeated efforts to extend the behaviorist research program to open settings have failed.

We want to emphasize that while behavioral phenomena in open settings are more complex than those in closed settings, complexity is not the key to our argument. Closed settings are not the simplest cases on which to build additively in order eventually to encompass complex, open cases, which is what most behaviorist researchers assume. Rather, they are special, degenerate cases that are properly intelligible only in the light of the teleological categories that also illuminate open settings.

The logic of teleological explanations is quite distinct from the logic of explanations obtained by subsuming a phenomenon under general laws, a goal to which all behaviorist explanations aspire (see Taylor, 1964). When we say, ‘A had the goal X, and A did Y because A believed that doing Y would (contribute to) bring about X’, we do not imply that there are internal states, A’s having goals and beliefs, that are instances of variables in a law that subsumes A’s doing X. Thus, for example, the explanatory import of ‘in the 1950s, Skinner engaged in a sustained, collaborative program of experimentation systematically investigating schedules of reinforcement, because his goal was to formulate a comprehensive set of behavioral principles, and he believed that reinforcement schedules were significant variables in that set, and that his available experimental techniques could uncover the principles of reinforcement schedules’ does not depend upon finding laws (regularities, generalizations) linking those goals and beliefs to the sequence of actions that constituted the carrying out of the research program. The having of goals and beliefs is not a hypothesized internal state that has a causal role that is explicated by laws. Rather, the connection between the having of goals and beliefs and action is closer to a logical relation, expressed in what some philosophers have called a ‘practical syllogism’. The idea (considerably simplified) is this: if I say that I have the goal X and that I believe that doing Y will bring about X, but yet I don’t do Y, then I am involved in a ‘practical contradiction’, unless I can show that there were countervailing considerations (for example, another goal that overrode X, another means to X, that I was prevented forcibly from doing Y). Put another way, _ceteris paribus_ not doing Y is public evidence that either I did not have the goal or I did not have the belief. This is an instance of how there are public ‘criteria’ for the having of goals and beliefs (Wittgenstein, 1958). The existence of these public criteria makes possible the empirical confirmation of attributions of goals and beliefs to a person. In addition, the order that is discernible among actions in the course of teleological explanation does not derive from classifying actions (behaviors) and displaying the members of the class as regularly following members of a class of antecedent events, as would be the case in law-like generalizations. The order derives instead from relating actions to goals, and it varies in richness depending on its capacity to display a wide variety, pattern, and sequence of actions as leading to the same goal. Since there is a kind of logical (‘criterial’) connection between the having of goals and beliefs and action, connections do not have to be defined in terms of regular successions of classes of events; teleological explanation can rest with unique descriptions of particular actions and still reflect order.

To challenge our argument about the limits of behaviorist explanation, it is
necessary to show that there are settings, beyond the boundary conditions we specified in our discussion of closed settings, in which behaviorist principles are clearly exemplified. One must show how the teleological framework, in which relations between explanatory factors and actions are ‘logical’ rather than causal, can be replaced by causal laws of the behaviorist research program.

WHAT HUMAN BEINGS ARE

We have used the categories of teleological explanation, those that we use routinely to illuminate most of practical life, in order to define positively the boundaries of the explanatory power of behaviorist principles, and our mode of argument has involved sociological and historical analysis. Although our analysis is not ‘scientific’, in the sense in which science is conceived as involving the representation of phenomena as lawful, it serves the indispensible scientific function of defining the limits or boundary conditions of known generalizations. Our procedure is not \textit{ad hoc}; it is entirely appropriate in the light of the kind of beings that humans are. To conclude, we will briefly outline our conception of human beings, contrasting it with the general conception of radical behaviorism.

Like behaviorists, we regard the analysis of the relation between persons and the environment as essential for understanding human behavior. Unlike them, we deny that this relation can be captured in a set of regularities involving behavior and environmental variables, except in closed settings. Characteristically, the relation between a person and the environment is mediated by the person’s interpretation (perceptions, beliefs) of the environment, and intentions with respect to modifying it. Interpretations and intentions may be thought to be the province of cognitive psychologists. But they, like behaviorists, are normally in search of laws, and we do not believe that interpretations are any more lawful than actions are in open settings (see Fodor, 1983, for a supporting argument). Consequently, except in closed settings, human behavior is marked by variability and a certain novelty.

Affirming the explanatory significance and indispensible of interpretations and intentions does not diminish the importance of the environment. The environment is both a constraint on behavior and the object of behavior. It limits what it is possible to do, and what can be, done is always a modification of the environment (never the product of ‘pure volition’). Modification of the environment is the explicit object of intentions; virtually all acts presuppose a multiplicity of environmental conditions, and all acts are expressed in a material medium. Beyond this we also maintain that the very obtaining of behavioral regularities depends upon the presence of certain environmental conditions (broad socio-economic structures that convert many settings into closed ones). On this view different regularities may obtain within different socio-economic structures, so that the obtaining of regularities has an essential and ineliminable historicity, and requires a social-historical analysis for its explanation. When regularities are detached from socio-economic structures, human nature comes to be viewed as identical with its manifestation in the particular socio-historical locale in which it is being examined. Psychological inquiry dissociated from history always runs the risk of this misidentification.
In other ways, too, we emphasize the social and historical character of human action. Human beings are social beings. What they do reflects their social positions and social roles, and much of what they do is directed toward generating and maintaining various kinds of social relations. Much deliberation about what to do concerns what is possible and appropriate given one’s social position and role, and the positions and roles to which one can reasonably aspire. The explanation of a person’s goals involves locating that person in the social nexus. The social nexus in turn requires that the person participate in certain practices, or be subjected to certain controls. Compare, for example, the role of professor in a psychology department, which requires participation in the practice of scientific research, with that of a worker earning piece rates in a factory, which requires performing tasks set by management in accordance with schedules controlled by management.

Within a practice such as scientific research, goals are understood in terms of their appropriateness given the current state of development of a particular research program — whether, for example, the research in question contributes to solving an outstanding problem, to refuting a rival hypothesis, to exploring a significant new phenomenon, to confirming a prediction that was generated by a theory, and so on. What it makes sense to do at one time is often quite different from what it makes sense to do at another. To understand why a researcher performs a particular experiment, one needs to locate its relevance to the historical unfolding of the research program. Actions that derive from practices become fully articulated only in teleological and historical terms.

Within a practice, goal-setting is not merely an individual matter, for judgments of appropriateness ultimately involve the collective wisdom of the body of practitioners, and novices are apprenticed into the practice in the context of this collective authority. So proposed goals may be varied, challenged, and changed. Goals may be changed for various reasons, for example, conditions for realizing the goal (funding, outlets for publication) may be removed. Paradigmatically, however, within a practice goals are changed because of criticism, argument, the presentation of evidence — in general, through participation in dialogue. How the practice develops is crucially the outcome of this dialogue among the practitioners, and so a practice develops appropriate social relations among its members to facilitate and enhance such dialogue. In contrast, dialogue among the members of the work-force is essentially irrelevant to the setting of goals in a closed setting like the factory, and social relations that facilitate control rather than dialogue are thus developed.

There has always been a moral impulse behind Skinner’s driven and unrelenting commitment to behaviorism, a belief that the implementation of systematic behavioral controls will contribute quickly to solving the big social problems of the modern world (Skinner, 1971). And much of his philosophical writing has been devoted to arguing that persons are the kind of beings defined by relations of control. We too have a moral motive. It is that relations of dialogue in all aspects of life are better for everyone than relations of control. So it is important for us to take as the appropriate objects of psychological inquiry persons who are capable of rich, dialogical relations, and to give an empirical basis to the claim that settings in which relations of control dominate are products of historically contingent socio-economic structures. We have tried to do so here, and to suggest that
human beings are what the explanatory scheme with the greatest comprehensive-ness — the teleological scheme — says they are, and that where they appear to be otherwise, important features of humanity have been suppressed.

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