

INTENTIONAL BEHAVIORISM AND THE INTENTIONAL SCHEME: COMMENTS ON GORDON R. FOXALL'S "INTENTIONAL BEHAVIORISM"

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ABSTRACT: This commentary discusses critically the proposal of Foxall's intentional behaviorism that, when the use of intentional categories can be justifiably portrayed as *heuristic overlay* to theories incorporating radical behaviorist principles, intentionality may be part of behaviorist interpretations of behavior that occurs outside of the controlled conditions of the laboratory and practical behavioral interventions. I sketch an argument that typical uses of intentional categories for the explanation of human agency (e.g., its exercise in conducting scientific research) are not properly grasped as being such heuristic overlay and so are not illuminated by behaviorist interpretations.

Key words: behaviorism, intentionality, radical behaviorism, intentional behaviorism, intentional systems, Daniel Dennett, human agency

Introduction

Foxall's article "Intentional Behaviorism" (Foxall, 2007) is complex, rich in detail and argument, and based on mastery of a great variety of approaches both to philosophical psychology and to psychological theories in play in experimental psychology. It has important implications for the philosophy of psychology, for empirical/theoretical developments in experimental psychology, and for relevance of the latter to applied psychology and interpretations of human capacities and accomplishments in actual historical social situations. There is so much here. In these comments, however, I will only address Foxall's proposal that the interpretative power of intentional behaviorism both builds on and extends that of radical behaviorism and, indeed, promises a comprehensiveness that is lacking in radical behaviorist interpretations.

Let me state at the outset that I think that the philosophy and research program of intentional behaviorism represents a significant development of the behaviorist (and also some parts of the cognitivist) tradition for the following reasons:

First, it enriches radical behaviorism by clearly identifying some of the principled limitations of radical behaviorist interpretations while, at the same time,

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strengthening, at least programmatically, the significance of the radical behaviorist research program.

Secondly, it also alleges principled limitations of Dennett's theory of "intentional systems" and argues that in order to overcome them another stance, the "contextual stance," needs to be brought into play in addition to the three that Dennett has identified, "physical," "design," and "intentional."¹ Foxall writes:

Although Dennett refers often to behavior as that which is to be explained, he does not incorporate an extensional behavioral science into his scheme of explanation to counterbalance the extensional neurology on which he . . . relies. Yet behavior is the criterion of the intentional and needs to be systematically related to its causal environment so that it may play its vital role in the framework of analysis proposed here.² (p. 37)

Thirdly, it provides a framework for unifying radical behaviorist and intentional system approaches, which hitherto have largely been isolated from each other and even so antagonistic that cognitive psychology has succeeded in marginalizing radical behaviorism in the psychological mainstream. The framework incorporates both approaches, clearly specifying for each the limits beyond which it is not to transgress and within which it is to unfold autonomously. Intentional behaviorism thus displays them (at least programmatically) as complementary to each other.

Prediction and Explanation of Behavior

Like other forms of behaviorism that aim to inform and to interpret specific research programs in psychology, intentional behaviorism posits that the object of research is *behavior* (for Dennett the object of psychological research is the intentional system, but he is a methodological behaviorist in the sense that [p. 31] he considers the prediction of behavior to be the key criterion to be met in testing theories about intentional systems). Unlike Skinner, Foxall does not take the *prediction and control of behavior* to be the unique aim of science. He says little about control, but prediction of behavior *per se* is not the aim. Intentional behaviorism is not intended to compete with radical behaviorism on the matter of

¹ I am persuaded that intentional systems theory needs to be supplemented to be able to adequately take into account behavior–environment interaction; however, Foxall's argument that this inadequacy should be remediated by adding the contextual stance, which deals with behavior–environment relations without input from the cognitive stance, does not consider the well known claim—made in numerous writings by Chomsky and Fodor (e.g., Fodor, 1975)—that the learning of language and engaging in linguistic activities (verbal behavior) cannot be accounted for by reference to generalizations that relate behavior only to environmental variables without also including variables designating cognitive states (competence). Unless that argument is decisively refuted, Foxall's view that the personal and super-personal levels of analysis should be kept distinct could not be sustained.

² All page references in the text are to Foxall (2007).

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prediction and control of behavior; its contribution is to provide *explanations* or *understanding* of behavior, or aspects of behavior, where prediction is out of the question (pp. 9-16). It is a strength of intentional behaviorism that it incorporates the entire predictive power of both radical behaviorist and intentional systems theories while programmatically surpassing them both in explanatory power. Foxall writes:

. . . we must keep an open mind on whether invocation of cognitive mechanisms adds to predictive accuracy. Their primary aim is to aid understanding, to allow a complete account of human behavior acquisition and maintenance. The environmental variables alone might contribute more to simple prediction and control; however, the evidence is that cognitive factors alone add little to prediction. (p. 16)

Moreover, the justification of intentional behaviorism lies in the necessity of connecting efferent–afferent processes in some way that (a) physiology cannot, (b) behavioral science cannot, and (c) that aids in the coherent explanation and prediction of behavior (p. 44). Being able to use a theory to predict behavior remains of central importance for Foxall, so much so that theoretical hypotheses used in explanatory interpretations when the intentional stance is adopted—whether or not they enable predictions that cannot be made within the extensionalist constraints of radical behaviorism—are constrained to have certain types of connections with extensional theories that have demonstrated predictive power.³

Theories entertained within the intentional stance *ascribe content* to entities, events, and states at the “personal level,” which (following Dennett) Foxall contrasts with the “sub-personal” level, the neurological (and design) level, and (in criticism of Dennett) with the “super-personal” level, the level of “behavior–environmental linkages” (p. 31) for which there are developed extensional theories that deal with “the effects of social and physical context on the ontogenetic development of the organism, including its acquisition of a behavioral repertoire” (p. 24). For him, legitimate ascription of content is made on the basis of theories and findings of the extensional theories developed for both the sub- and super-personal levels (p. 24). Ascribing content involves a “heuristic overlay of interpretation” (p. 45). Ascribed content has no role in theories at the sub- and super-personal levels; rather, it provides “an extra interpretation. . . that provides greater intuitive understanding of the system. . . . Intentional ascription simply describes what a purely extensional theory would describe—nothing more—but in a different way” (p. 25), and “. . . it is the derivation of another level of interpretation in order to facilitate understanding and prediction by taking the personal level of experience into account” (p. 47).

³ Foxall’s accounts of “intentionality,” the difference between “intentional” and “extensional” sentences/theories, and the various stances that may be adopted toward an intentional system are clear and accurate; they need no further introduction in this commentary.

For Dennett, the ascription of content to findings established in sub-personal-level theories depends on showing that “the sequence of events that are to be intentionally explained are appropriate from an evolutionary perspective” (p. 42), that “the process of natural selection that [produced the phenomena described in the findings] must provide the logic by which activities are proposed in order to explain or predict the behavior of the whole organism” (p. 25)—in other words, to explain or predict what the organism does or how it acts, not to predict the behavior as it is characterized in extensional theories.

The appeal to natural selection provides the key analogy for Foxall’s mode of ascription based on the super-level theories of radical behaviorism, for example, operant conditioning (including the matching law) for identifying “the necessary link between the extensional behavioral science and intentional cognitive psychology. . .[for making the attributions that are to be made in order to predict an intentional system]” (p. 37; cf. 39). This analogy leads him to propose as his “convincing rationale” (p. 42):

The required interpretative device is that of content ascription in terms of the desires and beliefs it would be rational for the individual to have in view of his or her situation defined by the intersection of his or her learning history and the behavior setting he or she faces. (p. 43)

Natural selection defines what is “appropriate” from an evolutionary perspective; “rationality”—understood in terms of “optimality” or “maximization” (pp. 19, 43, 47)—defines what is “appropriate” from a behavioral perspective. The resulting accounts, like scientific hypotheses, are subject to testing in light of the evidence (pp. 37-38) and “of accruing information about the behavior of the system and its environment” (p. 39). Foxall states:

A clue is that the correct beliefs and desires arise out of consideration of the logical consequences of the beliefs the system has previously held, which introduces issues that the contextual stance would attribute to learning history plus the current behavior setting and the consequences it portrays as contingent on behaving. (p. 38)

Desires and beliefs, and other mental content, are thus decided upon at the super-personal level as a result of the uncovering of environment-behavior links. (p. 41)

The evidence supporting the legitimacy of “the heuristic overlay of intentionality” comes from the capacity of the intentional stance, among other things, to elucidate the personal level (p. 45; cf. 9-16).

Intentionality as “Overlay” of Radical Behaviorist Principles

Foxall’s thesis is that intentionality may be part of interpretations of behavior outside of the controlled conditions of the laboratory and practical behavioral interventions, provided that its use can be justifiably portrayed as involving the ascription of content *as heuristic overlay* to theories incorporating radical

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behaviorist principles. He says: “the use of the intentional stance is advocated here only in the context of radical behaviorist interpretation” (p. 47).

This thesis is ambiguous. First, I think that the proposal is well motivated as one principally addressed to radical behaviorists, urging them to permit a role for intentionality (subject to the constraints referred to above) in their interpretations of behavior outside the laboratory, and to intentional system theorists, alerting them to arguments that some such interpretations may be well justified. Secondly, it seems to be also a proposal addressed to those who question the adequacy of intentional behaviorist interpretations, suggesting that any sound use of intentional categories presupposes that it is an overlay of radical behaviorist principles. I question the thesis understood in this second way and will devote the remainder of this commentary to explaining why.

Certainly the bulk of the argument in Foxall’s article is directed toward supporting the thesis understood in the first way. Nevertheless, a number of passages suggest that he thinks that this is sufficient to support the thesis understood in the second way, or at least to leave it as a viable option. Alluding to one of the most common arguments that this is not a viable option, that “creativity” cannot be grasped under radical behaviorist principles, he says:

There is limited acceptance [according to intentional behaviorism] that humans can be creative in formulating personal or self-rules, but there is not (and cannot be) any evidence that these procedures are not environmentally determined through environment–behavioral conditioning. (pp. 48-49)

It is true, of course, that the claim that these procedures are not environmentally determined in this way is not falsifiable (in Popper’s sense it is a “metaphysical” claim); but is there evidence that they are so determined? If so, is it evidence that supports an already-articulated theory involving intentional ascriptions considered as heuristic overlay of theories of operant conditioning? If not, it is nevertheless not ruled out that the unfolding of the program of intentional behaviorism will lead to the articulation and confirmation of relevant theories—but is this sufficient to leave it as a viable option that any sound use of intentional categories presupposes that it is an overlay of radical behaviorist principles (and so determined through environment–behavioral conditioning)? A compelling affirmative answer depends on there not being evidence to support theories that do not hypothesize such conditioning and that can provide explanations for the phenomena in question, such as the learning of language and linguistic activity (or the creative “procedures” of formulating self-rules). The non-falsifiability of a hypothesis does not imply that there may not be compelling empirical evidence for its negation.⁴

⁴ Foxall appeals to Feyerabend’s proposal (which I endorse) for the ongoing development of competing theories. Feyerabend made his proposal partly in criticism of views like Popper’s, arguing that the only way to bring non-falsifiable hypotheses into the orbit of empirical testing is to put them into competition with competitors for which evidence may be obtained directly.

We can get at the ramifications of this point by considering Foxall's following statement:

The point is sometimes made that radical behaviorists often incorporate the language of intentionality in their popular accounts of behavior, the implication being that the extensional operant account is thereby diminished and perhaps incapable of adequately describing the events that are the subject of the accounts in question. (p. 46)

Well, I have sometimes made a point like this (Lacey, 1996; Lacey & Schwartz, 1987), but with an important twist. My focus was not so much on "popular expositions of behavior" but on the scientific activity of behaviorist researchers—that this activity is explained routinely using the categories of the intentional scheme and that empirical findings and theoretical developments are invariably presented (e.g., in journal articles) in intentional idiom—and, again noting the point about non-falsifiability, there is no plausible reconstruction available of how the activity of scientists (now characterized in intentional terms) could be re-constructed so that the use of intentionality involved can be considered as heuristic overlay of an extensional theory at the super-personal level.

The Intentional Scheme

Let me elaborate. I have just claimed that we explain aspects of scientific activity freely using the categories of the intentional scheme, by which I mean the array of categories (and others that presuppose or articulate instances of them) that are routinely learned in the course of language learning and refined within such practices as science, law, moral thinking, and writing literature, including: purpose, intention, goal, deliberation, desire, aspire, value, evaluate, responsible, belief, hope, anticipate, perceive, and think, as well as numerous motivational and emotional terms. Engaging in scientific research involves, among other things, deliberative action and judgment (concerning, e.g., the immediate object of investigation and the categories to be deployed in making observational reports and theoretical hypotheses), evaluating the current state of research and the possibilities that it admits, collaboration and critical discourse (a theory of a specified domain of phenomena can only be considered well confirmed when it has been defended against criticism), and appraising hypotheses and experimental findings in the light of appropriate canons for empirical inquiry. Thus, engaging in scientific activity is intentional through and through, even when (as in the operant conditional laboratory or in the empirical procedures of the human genome project) many of its features are largely automated. Doing science is inserted into a historically unfolding practice, outside of which its immediate tasks and its findings are unintelligible. Without thorough and sophisticated mastery of the intentional scheme (and the capacity for rational choice and evaluation⁵ that it

⁵ The "rationality" involved in theory choice and evaluation cannot be analyzed in terms of "optimality" or "maximization." For my summary argument, see Lacey (1990).

enables us to articulate) one cannot participate in scientific research. Only within a mode of inquiry that is through and through marked by intentionality can extensional accounts of various domains of phenomena be developed and shown to be well confirmed, or even to be the sort of accounts that science (addressing the relevant phenomena) should entertain. Moreover, the only claim that a scientific theory legitimately has on us is derived from its being well-confirmed (and this implies that it has successfully withstood serious attempts to refute it in the course of empirical investigations). “Being well-confirmed” is a notion that is unintelligible apart from the intentional scheme, for the judgment that a theory (hypothesis) is well-confirmed follows from judgments about how well epistemic values (e.g., empirical adequacy, predictive and explanatory power) are manifested in it in view of available evidence and the judgment that this evidence is sufficient to this end (Lacey, 1999, Ch. 3). In this context we can *understand* much of the activity of scientists and what they are trying to achieve, but we can rarely *predict* the outcomes of their research.⁶

Foxall draws conclusions based on arguments about the hypothesized relationship between intensional and extensional accounts of behavior, but—unless the intentional scheme is intelligible and available to be used in rational arguments with one’s opponents *prior to the arguments*—these conclusions have no claim on us. I submit that the success of modern empirical science is witness to the explanatory power made possible by the intentional scheme. Current achievements of intentional behaviorism provide no reason to think that this success is linked with the intentional characterizations being heuristic overlay of radical behaviorist principles, although this has not been definitively ruled out (the non-falsifiability point). However, it seems to me that rather than looking to ground the credibility of intentional explanations on their being an overlay of radical behaviorist theories, matching (and then surpassing) the descriptive and explanatory power actually achieved by using the intentional scheme should be considered a (long-term) condition of adequacy on intentional behaviorist interpretations.⁷ Meanwhile, those who use the intentional scheme in their psychological theorizing need not be defensive or concerned that they need “to ground the intentional in a basis of materialism” in order to “rescue” it “from apparently unlimited phenomenological speculation” (pp. 24-25). Empirically testable hypotheses can be articulated in intentional idiom (see, e.g., Lacey & Schwartz, 1996); submitting them to appropriately designed empirical testing, not speculating about them phenomenologically, is the appropriate way to deal with them.

⁶ If we could we would not need to conduct the research, and if we could control the outcomes, that would be compelling evidence that central scientific values were not being adhered to.

⁷ If one accepts this point and, at the same, time holds that all sound intentional explanations have an underlay that, in principle, could be discovered with deployment of the contextual stance, one might find it necessary to propose further principles at the super-personal level to add to or qualify those of operant conditioning. This would leave intact Foxall’s methodological desideratum that the levels be autonomous from one another while allowing the personal level to provide stimulus to discovery at the super-personal level.

Perhaps I am unfairly portraying the current achievements of intentional behaviorism! Foxall points to its success in using intentional ascriptions (meeting his strict requirements) in “social, organizational, educational, and economic applications” (p. 2) and “not only in the closed settings of the operant laboratory and therapeutic community but in the open settings presented by the economics of everyday life” (p. 51). Are not these achievements pointers to greater ones (perhaps extending to scientific activities) that we might anticipate in the future? Because of spatial and temporal limitations I cannot address this question here with the seriousness that it deserves. I note only that I would extend arguments that I have previously made (Lacey & Schwartz, 1986, 1987) and that do not apply *per se* to intentional behaviorism, using social–historical analysis that is articulated with the indispensable use of intentional idiom, that radical behaviorist extensional interpretations can deal at most with behavior in “closed settings” (defined in Lacey & Schwartz, 1987). The extension would be that intentional behaviorist interpretations extend, at most, to behavior in those social contexts in which rationality is plausibly analyzed in terms of optimality or maximization. The interpretations may apply to the managed in organizations, but they do not serve to explain why the manager acts to further the interests of the organization rather than to attend to the needs of the managed; they do not extend to the activities of scientists, teachers, practical psychologists, or ordinary conversation partners. Often radical and teleological behaviorist interpretations in these domains present an appearance of plausibility by effectively defining operants with the aid of intentional categories (Lacey, 1995, 2002), and so illicitly crossing the border between the personal and super-personal levels. The corresponding temptation for intentional behaviorism would be to attempt to gain greater plausibility by confounding the use of “rationality” (acting in the light of reasons and changing what one does in response to appropriate reasons) that is fundamental to the intentional scheme with rationality as optimizing or maximizing. I do not pretend that these summary remarks have settled any of these disputed matters; I am just indicating what my next steps in the discussion would be.

Human Agency

It is fundamental to my argument that the intentional scheme is a rich source of concepts for describing, explaining, and anticipating the possibilities of human action—for characterizing human agency. Agency is a human capacity. In my opinion, agency is what is characteristic of human nature (Lacey, 1999, Ch. 9; Lacey & Schwartz, 1996); human beings have the capacity to act informed by their own values in the light of their assessments of current realities and to act efficaciously (informed by these assessments) to bring about changes in themselves, other human beings, and social institutions. Agency is a capacity that may be enhanced or diminished depending not only on one’s physiological and anatomical endowment but also on one’s relations with others and one’s place in social institutions. The animus to my argument is connected, first, with the perception that the social contexts in which intentional (as well as radical)

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behaviorist interpretations are plausibly considered well-established are contexts in which agency tends to be diminished, and thus social justice weakened; and, second, that the categories of intentional behaviorism are inadequate for representing enhanced or diminished agency, and thus permit mistaking an account of diminished agency as potentially the basis for a general account of human agency.

This point highlights that my remarks on the richness of the intentional scheme do not seem to engage with Foxall's attitude to intentional explanations of behavior, which he considers "inevitable" but somehow needing "resolution" with "the claims of extensional science" (p. 24) for their respectability. I recognize, of course, that there are questions that await investigation regarding the relationship among agency, physical mechanisms of the body, and the two-way interaction between human beings and their ecological and social environments, but I am not convinced that the claims of an extensional science are somehow more fundamental. Foxall, like many other philosophers of psychology, speaks of the intentional scheme as "folk psychology," which attempts "to explain behavior on mentalistic, uncritical, folk-psychological grounds" (pp. 29-30), which "provides a non-specific and unhelpful causal theory of behavior" (p. 26) and which needs "refinement" to become a more systematic and useful tool for intentional systems theory (pp. 3, 26) and for intentional psychology (p. 48). Yes, the intentional scheme does not help much if one's aim is to predict (or explain) *behavior*, where "behavior" is understood as properly described in extensional terms. The "refinements" do not serve the purposes it serves, and (as suggested above) they may even undermine them. The intentional scheme enables the description and explanation of *actions*, which are described in intensional sentences (the ordinary English word "behavior" usually refers to whatever a person does, the totality of their actions, and its pluralization is usually ungrammatical). Characteristically, in dealing with human beings we observe their actions and we describe what we observe using intentional categories and rarely (and only in special circumstances) exclusively in extensional idiom. There is nothing inappropriate here; it is no more or less admissible that observational reports are laden with intentional categories than that they be theoretically laden, as is commonplace in all the natural sciences.

My deep difference with Foxall (and all forms of behaviorism) is that I question the idea that *behavior* (understood as properly described in extensional terms) is the object of psychological inquiry, and propose instead that it is *human agency*. It is this deep difference that accounts for what I think are also differences between us on the following matters, which I state now solely for the sake of sketching the full picture:

- The explanation of action is not a heuristic overlay on the explanation of behavior.
- Explanations of action routinely given in the course of social practices are typically subject to empirical appraisal, not instances of phenomenological speculation, and are distinct from interpretations of behavior offered when the intentional stance is adopted towards an intentional system.

- Human agents cannot be adequately understood as intentional systems, even with the contextual stance added to Dennett's three stances.
- The capacities of human agents cannot be reduced to their "behavioral repertoires."
- Using the full powers of the intentional scheme is not the same thing as adopting the intentional stance, for the intentional stance is adopted toward intentional systems, not agents.
- Rationality, the capacity to respond in appropriate ways to reasons, cannot be analyzed exclusively in terms of optimizing or maximizing.
- Linguistic activity does not reduce to verbal behavior.
- Methodological behaviorism, which highlights the prediction of *behavior*, is not fundamental to the methodology of scientific psychology.
- Scientific theories of agency need not represent the phenomena in terms of the lawfulness of their underlying structures and the processes and interactions of their components and/or in terms of lawful relations between behavior and environmental variables. The order that serves to explain actions derives not from subsuming actions under general laws but from their connection with beliefs and desires in practical syllogisms (Lacey, 1996; Lacey & Schwartz, 1986).
- The quest for explanatory comprehensiveness (in the realm of agency) should not be subordinated to the quest for theories that can be reconciled with an extensional account of things (as required by materialist metaphysics).

The further elaboration of these matters will have to wait for another occasion. For now, it suffices to reiterate that Foxall's intentional behaviorism opens up new vistas for behaviorist research and interpretation—but I remain unconvinced that intentional behaviorist interpretations can replace the intentional explanations produced in the course of common human practices. The latter may even be able to define the limits of application of the former. I agree with Foxall, however, that it is in long-term empirical research conducted under a multiplicity of competing methodological approaches, and not in undisciplined phenomenological speculation, that we should attempt to work out our differences.

References

- Fodor, J. A. (1975). *The language of thought*. New York: Crowell.
- Foxall, G. R. (2007). Intentional behaviorism. *Behavior and Philosophy*, 35, 1-55.
- Lacey, H. (1990). The significance of decision theory: A review of Michael Resnik's *Choice: An introduction to decision theory*. *Behavior and Philosophy*, 18, 73-78.
- Lacey, H. (1995). Teleological behaviorism and the intentional scheme. *Behavioral and Brain Sciences*, 18, 134-135.
- Lacey, H. (1996). Behaviorisms: Theoretical and teleological: A review of John Staddon's *Behaviorism: Mind, mechanism, and society*, and Rachlin's *Behavior and mind: The roots of modern psychology*. *Behavior and Philosophy*, 23, 61-78.

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- Lacey, H. (1999). *Is science value free?: Values and scientific understanding*. London: Routledge.
- Lacey, H. (2002). Teleological behaviorism and altruism. *Behavioral and Brain Sciences*, 25, 266-267.
- Lacey, H., & Schwartz, B. (1986). Behaviorism, intentionality and socio-historical structure. *Behaviorism*, 14, 193-210.
- Lacey, H., & Schwartz (1987). The explanatory power of radical behaviorism. In: S. Modgil & C. Modgil (Eds.), *B. F. Skinner: Consensus and controversy* (pp. 165-176). London: Falmer Press.
- Lacey, H., & Schwartz, B. (1996). The formation and transformation of values. In: W. O'Donohue & R. F. Kitchener (Eds.), *The philosophy of psychology* (pp. 319-338). London: Sage.