

A Teleologist's Reactions to "On Private Events and Theoretical Terms"

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This paper examines the theoretical differences obtaining between a mechanist like Moore and a teleologist like the writer. It is shown that mechanistic formulations invariably reduce the account to material and efficient causation, whereas teleologists want to bring in formal-final cause descriptions as well. Mechanists frame their explanations in third-person (extraspective) terms whereas teleologists often seek a first-person (introspective) formulation of behavior. Moore's references to "private events" are shown to be extraspectively understood. A major theme of this paper is that Skinner actually capitalized on the intentional nature of human behavior, and that it would be fairly easy to reconceptualize his theory and its empirical support in teleological terms. Careful examination of both the contingency and the discriminative-stimulus constructs are made in support of this contention.

Ray Russ has asked me to comment on Moore's (1992) interesting paper, doubtless because he knows that as a teleologist, I have "transgressed" in about every way imaginable on the radical behaviorist's prescriptions for how to approach the study of human beings. My theoretical views concerning the influential role that both demonstrative and dialectical logic plays in the determination of human behavior go far beyond the cognitivists on whom Moore focuses his critical attention (Rychlak, 1986, 1988, 1991). I am pleased to undertake this commentary, as it may help our readers to appreciate the differences that exist between a teleologist like myself and the mechanistic formulations of both behaviorism and cognitivism that have so dominated our profession over this century.

The first point that struck me was in the very title of this paper, which suggests a naive realism in that we are supposedly considering the possibility of "private events" taking place inside people's skin on the one hand, and "the-

oretical terms" used to describe these events on the other. Much of the current work in the philosophy of modern science actually stems from a more idealistic stance, in which it is assumed that *all* theoreticians are precedently employing constructs (paradigms, world hypotheses, etc.) to describe and analyze what they study. In this sense, a "private event" is a "theoretical term." Moore tells us: "Cognitive psychologists seem all too ready to grant the logical positivist's distinction between the context of discovery and the context of justification. In contrast, for the radical behaviorist, even a preliminary operational analysis of the origin of some concepts would reveal they are derived from linguistic or cultural preconceptions, and are cherished for irrelevant and extraneous reasons" (p. 337).

I find here a confounding of two quite different levels of abstract analysis. I understand Reichenbach's (1938) distinction between a context of discovery and a context of justification to be a *metatheoretical* analysis in which a distinction is being drawn between a theoretical "discovery" (formulation, hunch, etc.) and the problems connected with "justifying" it through a method of proof (e.g., correspondence with fact, plausible coherence, etc.). This distinction emphasizes that knowing and proving are two different things (which, incidentally, holds true in courts of law as well). When Moore now says that an operational analysis made of the origin of certain concepts reveals that they are derived from linguistic or cultural preconceptions he is no longer at the same metatheoretical level as Reichenbach's distinction. He is giving his reader the radical behaviorist's basal theory of where verbal distinctions like theories or hypothetical constructs "come from." But at the more abstract metatheoretical level of analysis such basal formulations are irrelevant. This talk of a "preliminary operational analysis" bears no more weight on the argument at issue than would a cognitivist's claim that there have been logical conceptions creatively framed by historic individuals and subsequently adopted by others in the society to bring about those linguistic and cultural preconceptions that have been handed down as "received views" to influence today's participants in the culture.

In other words, I do not find it proper to use operant conditioning theory as a basis for discrediting analyses of how it is that Skinner qua theoretician formulated this account in the first place. Of course, to be fair, Moore really cannot give in to such metatheoretical analyses completely or he has lost his case for radical behaviorism at the outset. Such analyses embrace the very point that Moore opposes—that is, something going on "inside" can influence something going on "outside" the organism. I am unable to speak for Zuriff (1979, 1980, 1985), whom Moore cites as having argued that "radical behaviorists regard private events as inferred, theoretical constructs, just as do more traditional mediational neobehaviorists . . .," (p. 338) but I would understand an argument of this sort to mean that Skinner *must* predicate his

explanation of others on assumptions that are just as "theoretical" as anyone else's. Though he does not want to admit logic into behavioral description as a causal influence, we do find Moore using phrases like "the premise underlying the argument," (p. 337) and "is predicated on" (p. 339). Such expressions I take as his metatheoretical commentary, concerning which I could now oppose from the radical behavioristic position by claiming that Moore is incapable of premising or predicating anything; he has merely been shaped to use such phrases by the verbal community that cherishes them for "irrelevant and extraneous reasons" (p. 337). But this kind of counter would be as inappropriate as his rejection of the Reichenbach distinction already mentioned.

A major difference between how Moore (the behaviorist) theorizes and how I (the teleologist) theorizes is in the use of causation. Moore quite accurately tells us that behaviorism employs Aristotelian material and efficient causation in its theoretical formulations—the former to handle organismic and the latter environmental factors. As a teleologist, I want additionally to employ formal and final causes in my theoretical accounts. Though he rejects logic in his behavioristic theorizing, when Moore recognizes that we employ causal meanings to explain things he leaves himself open to the charge that he does indeed allow a logical predicate to influence his descriptive behavior. This is what the "causes" come down to—they are predicating meanings that endow our descriptive accounts with "this" or "that" form of explanation. Here again, we are speaking at the metatheoretical level. Moore, the theoretician, may be using what are termed formal causes at the metatheoretical level even as he eschews such formulations at the less abstract level of his specific explanations.

The material-cause predication explains things based on the substance that composes them. The efficient-cause predication explains things on the basis of the impetus that shapes them or moves events about. Billiard-ball causation is efficient causation. Formal-cause predication explains things based on the pattern that they take on as a total essence (which includes mathematics). And final-cause predication explains things based on the intention to attain some presumed end, a "that, for the sake of which" something exists or takes place. Final causation encompasses formal causation, because the "that" (reason, purpose) which frames the ensuing intention is a formal cause (plan, strategy, goal, etc.). The "end" (*telos* in Greek) being framed as a formal cause pattern "for the sake of which" events follow is what characterizes theories utilizing such causal description as teleologies. I am a teleologist or telic theorist because I want to predicate behavior in terms of final causation as well as the other causal predicates.

Behaviorism was spawned in the Newtonian traditions of science, which rejected formal and final causation. Insofar as a pattern occurred in nature (e.g., a tornado's funnel) it was the underlying material and efficient causes

(i.e., atmospheric pressures) that brought it about (Rychlak, 1988). And nowhere in nature are we to expect the functioning of a final cause. This concept should be relegated to theology and other sundry mysticisms. Moore rightly points out that modern cognitive psychology employs terms pertaining to mental events that are entirely consistent with the concepts of mediational neobehaviorism. Both of these formulations are efficiently causal in nature. And when we describe events in solely efficient-cause terms, we are essentially forced to express our theories from what I call a third-person, extraspective theoretical perspective (Rychlak, 1981, p. 27). We speak about "that, it, the mechanism," and so forth. On the other hand, when we frame explanations in terms of formal-final causes, our account shifts to the introspective theoretical perspective (*ibid.*) of "I, me, self," and so forth.

As a teleologist, when I consider the behaving person's "private events" I am theorizing introspectively, trying to understand the person's predicating assumptions, the meanings that he or she brings forward to influence the course of behavior. This means that I am going to be employing final and formal causation in my account. I may be "observing" the person behave, "over there," but the perspective that I take in explaining what takes place is his/her slant on things. What are the predications "for the sake of which" the person behaves? Since there are no such causes in the metatheory of behaviorism, when Moore speaks of "private events" he has in mind some kind of material-efficient cause action taking place "beneath the skin," like the pain experienced in having a toothache (to use his example). I would suggest that a biological upset of this nature is understood—even by the person experiencing it!—in an extraspective manner. My toothache is something going on "over there," in my tooth. But my identity ("I") is not at issue here. It would be quite different if, instead of saying "My tooth hurts," I were to say "My pride hurts." In the latter instance, I bring myself—my introspectively framed beliefs about who I am and what I expect—into the circumstances in a way that no toothache can mimic.

Moore seems to think that only mediational behaviorism shares common conceptualizations with cognitive psychology, but I would suggest that radical behaviorism is also a member of this group. The common assumption here is that only efficient causation influences behavior, and therefore any explanation of behavior must concern itself with what Skinner's quote in Moore's paper referred to as a "chain" of (efficient-) causation. This chaining can be thought of as mediation, of course, moving the person along in billiard-ball fashion, with antecedents impelling consequents. In fact, during his interview with Evans (1968), Skinner said: "As a determinist, I must assume that the organism is simply mediating the relationships between the forces acting upon it and its own output, and these are the kinds of relationships I'm anxious to formulate" (p. 23). A few years later, he opined: "Men will

never become originating centers of control, because their behavior will itself be controlled, but their role as mediators may be extended without limit" (Skinner, 1971, p. 18). I find little difference here from mediational behaviorism.

Moore tells us that radical behaviorism is concerned with suggested and/or direct interventions through "manipulation and control into natural events" (p. 330). Skinner's conception of the operant is as a kind of spontaneous action that literally produces its reinforcing effects. In fact, he has said that "there seems to be no necessary prior causal event" (Skinner, 1974, pp. 52–53) bringing the operant about. The operant simply "appears" (*ibid.*), and acts on the environment to produce contingently rewarding events or not. If the emission rate of the operant increases over time, we can speak of a contingent reinforcer having been produced. If nothing happens to the base rate of emission, then we cannot speak of contingent reinforcement. Skinner believed that he had corrected the "reflex arc" type of account that traditionalists were employing (see esp. Skinner, 1931). Quite frankly, I think his approach was revolutionary—and hold onto your hat, Dr. Moore—covertly teleological!

The case I am making hinges on the concept of "contingency," which is derived from the writings of the theologian, John Duns Scotus [1265–1308]. He defined a contingent cause as an efficient cause that was made dependent on an act of will and therefore was not a *necessary* action. As a theologian, he was interested in having people "think ahead," see the implications of their actions, and when the contingency was harmful (sinful, etc.), to do otherwise. This is clearly a teleological formulation of behavior, one that can be understood only in terms of an introspectively framed, final-cause action. In his reformulation of conditioning theory, Skinner stood off from the objects of study (initially, pigeons etc.) and extraspectively described the succession of events—from (antecedent) operant response to (consequent) contingency—in efficient cause terms. This altogether changed the meaning of a contingent cause. The contingency was something that occurred "over there," in the linear succession of a mechanical chain of antecedent–consequent events. The willfulness, the introspectively affirmed intention to do what was good and avoid what was bad, fell from sight.

Skinner claimed he was using contingency in a more scientifically "correct" manner. But I wonder. It seems to me that the original usage still has legitimacy. I feel this Skinnerian shift in meaning parallels the Jones and Nisbett (1971) finding that actors in situations tend to say that factors in the circumstances cause them to do what they do, whereas observers of the same actors assign causation here to some kind of habitual disposition to behave. In like fashion, I think that behaviorists ignore the (introspective) perspective of the actor in such life situations and (extraspectively) assign determi-

nation to "variables" in the environmental circumstances that shape (efficiently cause) what is taking place.

We see this in Skinner's quote where he tells us that both covert and overt behaviors are "attributable to the same variables." I consider all talk of "variables" to be acceptable *only* in the context of justification. Variables are methodological concepts based on a certain theory of knowledge (correspondence theory of truth, etc.). But we should not confound our notion of variables with the theory that we are putting to test in the use of variables. Variables are defined by our theories. I have always viewed the MacCorquodale and Meehl (1948) distinction to be a *theory* (hypothetical construct) versus *method* (intervening variable) distinction, and I would say that Moore's quote from Tolman supports me in that he there recognizes that variables bear no meanings in and of themselves. They are given meaning by the model (theory) prompting the investigator's experimental efforts. If we have no predicating model within which to position the relationships we observe between our independent, intervening, and dependent variables, then we invariably end up making a theory of our method (see Burtt, 1955, p. 229). This is what happened in psychology, where it was once common to speak of "S-R laws," confounding a theory (S-R) with a methodological conception ("law" or IV-DV regularity).

I have called this the "S-R Bind" in psychology (Rychlak, 1981, pp. 57-60). A beautiful example of this is in the phrase "methodological behaviorism." I am not sure I understand what Moore means by this, but I know from past discussions with my behavioristic colleagues that they mean something like "Anyone who studies behavior empirically is necessarily involved in methodological behaviorism because this is all that one can be observing and measuring." I have always found this suggestion absurd because it asserts that when I put my theoretical ideas into an independent-dependent variable sequence encompassing observed behavior I must necessarily be involved in a behavioristic (efficient-cause) endeavor. This means the method dictates the theory. Clearly, we cannot have an objective science of psychology if our method dictates the theory put to test in its use. Studying behavior does not involve an "ism" of any sort. One's interpretation of observed behavior can extend beyond efficient causation, and such (e.g., telic) theories can be tested in the context of scientific justification. I here offer my Logical Learning Theory as a case in point (Rychlak, 1986, 1988).

Psychology's love affair with efficient causation has been profound. Thanks to the accidents of history, in which teleological theorizing received a wretched reputation, the struggling new field of psychology qua science did all it could to keep itself free of what it took to be any taint of spiritualism or mysticism (see Rychlak, 1988). But final causation is not limited to such ethereal realms. Final-cause constructs *do* anthropomorphize the person—

not the machine that supposedly runs the person from within, but the person per se. There is no homunculus within this person. The person "is" the homunculus. The person is anthropomorphized instead of mechanomorphized (Allport, 1940). But since the person is an anthrop, this seems entirely correct—to anthropomorphize the anthrop!

So, I would like to suggest that Skinner's operant response conception has benefited from the fact that it captures the teleology in organisms which traditional S-R (reflex-arc) psychology failed to do. In October of 1989, during a break in a symposium that I was participating in at Harvard University (see Rychlak, 1990), I had the good fortune to spend ten minutes with Skinner during a coffee break. I asked him what he would say if someone were to claim that he had capitalized on teleology in his theory. To my amazement, he stated flatly that this would not bother him in the least and that he had, in fact, always emphasized that it was the consequences of the act, the purpose of the operant response that mattered. Now, I did not have the temerity to push him on this point, but it is my belief that he was thinking here in extraspective terms, and that he still had efficient causation in mind. The person mediates earlier influences into later influences without true intention or choice because on the Skinnerian model he or she cannot "do otherwise" than what the past shaping has indicated.

But what if I were now to take an introspective view of operant theorizing and suggest that all we need do is hypothesize that animals frame predications of their behavior, and behave for the sake of such "constructions"? Would we be far from teleology here? Surely Moore knows that there is a significant development taking place in animal study whereby the possibility of animals having predicating ideas (constructs, schemas, etc.) is no longer laughed off as medieval anthropomorphization (see, e.g., Griffin, 1981). Indeed, the findings on auto-shaping of pigeons contradict the concept of an operant response "operating" on the environment to produce contingent reinforcements, because it is shown that pigeons can learn to peck the key in a Skinner box just by observing the patterned relationship between a light flashed onto the response key followed by food dispensation (Brown and Jenkins, 1968). If the relationship between the lighted key and the food dispensed is random the pigeons do not condition (Gamzu and Williams, 1973). It seems reasonable to view this relationship as a formal-cause pattern that is basic to all conditioning.

Placing a screen between the pigeon and both the response key and the food dispenser, so that all the pigeon can do is observe an illuminated key followed by immediate appearance of the food, leads to an interesting outcome. *Immediately* as the screen is removed (with the food absent) the pigeon, who has not been operantly responding but simply "observing" events, walks to the response key and begins vigorously to peck it (Browne,

1976). Taking the pigeon's (introspective) perspective, it is not hard to envision a form of construct-formation taking place: "Pecking that thing can bring food." Griffin (1981) has framed several such animal hypotheses, as when he suggested that a hungry wolf might cognize: "If I chase that deer, I can catch it, and it will taste good" (p. 15). Tolman (1938) once frankly admitted: "I in my future work intend to go ahead imagining how, *if I were a rat*, I would behave as a result of such and such a demand combined with such and such an appetite and such and such a degree of differentiation; and so on [italics added]" (p. 24). These are "private events," framed from an introspective perspective. They are theoretical formulations which lend themselves to subsumption by the final-cause predication—that is, to teleological theorizing. But they can suggest research designs, and the evidence accrued in such tests can be evaluated pro or con, just like in any other form of experiment that we conduct.

When we turn to the findings on awareness in the operant and classical conditioning of human beings, the argument for teleology is even stronger (Brewer, 1974). I fail to see how anyone can deny that in order for a person to be conditioned it is necessary that he or she (a) grasp the formal-cause patterning of the "operant" response with the contingent reinforcer (in operant conditioning) or the conditioned with the unconditioned stimulus (in classical conditioning) and (b) cooperate with what is being indicated (suggested, intended, etc.) in this pattern. If human subjects fail to see these patterns, there is little evidence that "conditioning" as we know it in broad-ranging behaviors actually takes place. Even if they see the relevant pattern, subjects can willfully negate what is indicated and intentionally fail to "get" conditioned (see esp. Page, 1972). And yet, so far as I can tell, psychologists in general and radical behaviorists in particular are not challenged by such findings to rethink their understanding of learning.

An especially interesting feature of the radical behavioristic position is the concept of *discriminative stimulus*, which is well represented in Moore's paper. Why is a concept like this relied on in a theory of operant conditioning? Well, I think it is an effort to recapture the antecedent stimulus-control that Skinner's revolutionary concept of the operant removed from S-R theory. Since there is no credence given to the view that the organism qua homunculus can telically direct its own behavior, the radical behaviorist must search for a quasi-antecedent to point to, or literally grab onto and employ in the manipulation of operant responses, which then become quasi-consequents akin to the responses of classical S-R conditioning. My argument is that there is room in Skinner's thinking to claim that the operant response is not itself "stimulated" via efficient causation (which is what he meant above, in the quote stating that there is "no necessary prior causal event" involved in its emission). Hence, the operant concept is perfectly

consistent with a formal-final cause interpretation in which the person qua operator might *precedently/willfully decide* on how events will unfold. This teleological interpretation of the operant revives the meaning of contingency advanced by Duns Scotus, is consistent with empirical findings on awareness and cooperation, but unfortunately also demolishes the grounds for speaking of behavior as a mechanistic process.

The discriminative stimulus is a cue that the behaving organism has distinguished which is *other* than the contingent stimulus (the reinforcer). Knowing this discriminative stimulus, we can employ it to manipulate the organism's behavior in quasi-stimulus-response fashion. If animals are seen to behave one way rather than another based on contrasting odors or color schemes in the environment, we can manipulate these odors or colors as well as the contingent reinforcers to ensure their behavioral changes.

Now, an interesting theoretical problem arises. Why did the discriminative stimulus occur to the animal in the first place? Well, according to the theory, it arose because as the operant response was operating on the environment to produce contingent stimuli *pari passu* produced the discriminative stimuli. Skinner tells us that though the discriminative stimulus subsequently affords us some control over the organism "it does not then elicit the [operant] response as a reflex; it simply makes it more probable that it will occur again . . ." (Skinner, 1974, p. 74). Very well, but this proviso still does not explain away the fact that it is the operant response that concurrently produces *both* the contingency and the discriminative stimuli in ongoing behavior. No operant response, no discriminative stimulus. Simple as that! And what if Duns Scotus is right, and the uncaused (in an efficient-cause sense) operant is itself serving as a cause (in the formal-final cause sense)? Then what? We have a teleology, pure and simple.

Moore seems to tie language terms/signs to discriminative stimuli, and I fear reifies the "verbal community" into a kind of grand operant reinforcement machine "in the sky" so that he can say: "The verbal community teaches pain language to speakers by reinforcing verbal responses in the presence of the appropriate discriminative stimulus . . ." (p. 332). In my opinion, this sort of explanation overlooks the *proven empirical fact* (Brewer, 1974; Page, 1972) that it is the person who must see the pattern of his or her verbal productions and the contingent reinforcers to follow—as well as the discriminative stimuli that are being concurrently produced—and then be willing to further what is suggested in subsequent behavior (e.g., talk about things the way that others want him/her to) *or not!* We have very little evidence that people are operantly shaped the way Moore wants us to believe that they are (see esp. Brewer, 1974).

All we need do is shift the burden of efficient-cause mediation from the operantly responding (I prefer "intending") person to the social structure (the "verbal community") and we will have room for a teleological descrip-

tion of people. Instead of talking metatheoretically about Skinner's predications concerning his theory, we will be talking about all people. Skinner is a person who had framed conceptions and then behaved for their sake—just as all people do, all of the time. He said things that were adopted by others who were convinced by his arguments and the interpretation of his data, and so now we have the living influence of his intentions reflected in a certain school of thought (the operant-theory “verbal community”).

It follows from all of this that I, in opposition to Moore, do indeed believe that “constructs . . . have the power to *cause* the behavior of correct predicting, controlling, explaining, and understanding [*italics added*]” (p. 339). But the “cause” to which Moore here refers is not of the billiard-ball variety. The cause is the same kind of cause that is meant when we speak of paradigms, world views, Zeitgeists, schemata, metatheoretical analyses of Skinner's theorizing, the “weight” of logic, and so on. We are shifting from efficient to formal-final causation when we postulate “mental powers” as one form of “under the skin” influence on behavior. These directing (logical) powers are to be understood from the introspective theoretical perspective. They can also be studied rigorously in our empirical science (Rychlak, 1988, 1991). I hope the era of ad hominem criticism, in which we called all those psychologists interested in introspective theorizing mystics and spiritualists is past. Our fellow scientists are moving far beyond us because they no longer limit their theoretical concepts to material and efficient causation (see esp. Bohm, 1980, 1987; Sheldrake, 1989). It would be great to see an off-shoot development from the Skinnerian operant conditioning school of thought, reconceptualizing his experimental findings from the introspective theoretical perspective in formal-final cause terms. I think this possibility is viable and would provide us with an immensely instructive, *teleological* psychology.

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