

Parity for the Theoretical Ghosts and Gremlins: Response to Pollio/Henley and Rychlak

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Pollio and Henley and Rychlak support the author's efforts to provide empirical evidence from different methodological perspectives for a role of agency in the science of human behavior. The hypothesized agent initiates behaviors independently of heredity and environment, but it also is responsive to those causal factors. In addition to certain labeling problems, a major difference between our views is that the commentators attempt to use a monistic voluntaristic mode of thinking to conceptualize the causal mechanisms, whereas the author advocates in addition, on utilitarian grounds, a second incompatible, mechanistic mode of thinking. The microprocesses in the metaphysical views of voluntarism versus determinism are not empirically falsifiable, but hypotheses which propose different predictive values of the resultant theories under different conditions can be falsified. Neither theory is intrinsically more scientific, nor are methods associated with either theory intrinsically superior in the absence of context.

Before discussing the commentaries of Pollio and Henley (1991, this issue) and Rychlak (1991, this issue) on my proposal for a psychological resolution of the free-will issue (Harcum, 1991, this issue), I will comment on Rychlak's perplexity concerning the dearth of empirical studies on human agency. Rychlak (1983) himself has pointed out the traditional bias in experimental journals against telic research. Even the solicitation in *The Journal of Mind and Behavior* calls for empirical "tests" which are "finest," "rigorous," and "experimental." There is, however, another face of rigor. The Latin *rigor* (stiffness) means: "scrupulous or inflexible accuracy or adherence" (Stein, 1984, p. 1137). In scientific methodology, the term may also have poor connotations, as in *rigor mortis*, "the stiffening of the body after death" (Stein, 1984, p. 1137).

Research Methodology

The commentators and I agree about the need for empirical research on human agency. We advocate innovative research paradigms and techniques,

based on modernity in science. In fact, many psychologists do not recognize a discrete distinction between science and art (e.g., Deese, 1972; Korn, 1985; Zimmerman, 1984)

I agree with the Pollio/Henley proposal to add first- and second-person perspectives to the third-person perspective in psychological research. A combination of the three perspectives should converge on better answers to important questions. Although introspective reports can suffer from the lack of objectivity, sometimes they provide more useful information than the objective, third-person perspective. For example, Gilbert (1960) tells of a subject in a planned avoidance conditioning experiment who never made the escape response, despite more intense applications of the aversive stimulus. When the experimenter finally gave up, and asked the subject why he had not taken his finger off the painful electrode, the subject replied that he thought the purpose of the study was to test his ability to withstand pain.

The issue with the behaviorists is whether the same or different information can be obtained from the third-person perspective. Even Watson (1913) permitted introspective (second-person) reports if they obviously reflected the same facts that could be obtained in a more objective manner. Such redundant facts would not, however, provide a helpful converging operation with the third-person observations (Garner, Hake, and Ericksen, 1956). The commentators and I agree that the second-person perspective can provide valid and useful information that is not obtainable by the third-person perspective. Therefore, it can provide a useful converging operation for defining a concept or corroborating a research conclusion.

A researcher cannot simply assume that third-person data are always less, or more, reliable and valid than second-person data. If these measures do not converge on a conclusion, then their relative validities must be assessed. For example, subjects' stated reasons for their responses can include some post facto rationalizations to justify the completed act, as well as actual causes.

We must be wary of assuming that subjects' responses are voluntary because they are not given instructions about how to respond, because of ancestral factors (Lehrer, 1966). A behavior may be voluntary only in a semantic sense. In my data with the informed subjects, a major unexpected finding was that the self-conscious voluntary behavior was more constrained, suggesting that it was more habitual. But, one could also attribute this result to a greater likelihood for a voluntary rational basis of seat selection.

I prefer the interpretation of intention, arguing that the self-conscious state evoked a large array of ego-involvement factors because a trivial task had been elevated in importance. Many studies have shown consistent interactions between subject variables and motivational conditions, such as instructions. For example, the known dispositional variable of need achievement is not effective if the research situation has sufficiently raised the overall motivational level (Atkinson and Reitman, 1956).

Rychlak (1991) is correct when he says that "Mechanists cannot falsify their assertion that the experimental instructions are the sole determinant of a subject's behavior" (p. 145). But, is it possible to falsify the proposal that a behavior was produced by "precedent-sequacious meaning extentions"? At present, there cannot be a crucial empirical test of whether or not a human agent can make selections of responses independently of environmental and hereditary influences. Rychlak (1983) himself has helped to demonstrate that this is a metaphysical rather than a theoretical issue by showing that some classical experimental and observational findings can be understood in terms of human agency. Nevertheless, he has not eliminated the alternative interpretation. Skinner (1971) has used the same strategy in showing an alternative to intentionality. Rychlak (1983) and Skinner (1971) have thus emphasized the need for parity in the different modes of thinking.

The linguistic instructions are only a part of the total instructions to the subject. The complete set of research conditions provides instructions in the form of demand characteristics. In my study, simply informing these intelligent subjects that the researcher was interested in which seats they would take was equivalent to instructing them to use some normative basis for selecting a seat.

The relevant question is: Can a theory of agency predict behavior? If so, I agree with Viney (1986) that such a theory is viable. More important, can the concept of agency predict some behaviors more accurately or more easily than a mechanistic theory? The answer depends on many variables, of course, and that is the basic point of my study.

Cook and Campbell (1979) made several relevant points about causality. The first is that Popper's criterion of falsification actually involves multiple tests of one theory against another. Moreover, "Causal assertions are meaningful at the molar level even when the ultimate micromediation is not known" (p. 32). In some contexts it is appropriate (useful) to describe the reason for turning a light on in terms of someone's desire to have light for reading. In other contexts, the useful explanation would be in terms of turning the switch to the on position. Although we may not be able to test directly the issue of how disjunctive creative changes occur, we can evaluate the relative effectiveness of the theories in making predictions and in explaining results.

In the Howard and Conway (1986) study, subjects were told on certain days to use their own volition in deciding whether or not to eat peanuts. Although this is nominally volitional, would a strict behaviorist concede that the eating behavior was truly intentional? If the "person" who "comes to terms" and "acts for the sake of" is merely a constellation of mediating responses, created solely by heredity and environment, then the actions of that person, currently or historically, must be considered in mechanistic terms. Rychlak passionately considers this false, of course, but Skinner, with equal fervor, denied the mentalistic alternative.

My psychological resolution of the free will controversy, as opposed to an ontological resolution, simply recognizes the impossibility of empirically resolving the critical metaphysical question, because of the falsifiability criterion. But two hypotheses can be tested: (a) *the concept of human agency is useful for social science*; and (b) *the concept of environmental/heritable determinism is useful for social science*. Usefulness is defined both in terms of stimulating new avenues of research and theory, and in guiding human service programs. Thus, the empirical test of agency becomes the relative utility or success of the assumption in accounting for molar behaviors. A viable theory does not have to be correct in representing some ultimate reality in a positivistic sense. Therefore, falsifiability in an absolute sense is not the ultimate criterion.

Theoretical Issues

Although my proposal may be more model than theory, it does have theoretical and metaphysical implications. Thus, I affirm with Rychlak the importance of final causation. My article was in fact replete with telic references, in which the phrase "for the sake of" or "coming to terms with" can be substituted. Examples are: "probably the student would change only for a good reason [purpose], such as to avoid [for the sake of avoiding] noisy neighbors, or to join [for the sake of joining] friends." Other examples referred to the student who made a concession to [responded for the sake of] an injured leg, and another who sat in front to avoid [for the sake of not] appearing rude.

I would in fact not exclude any basis of causation, following Harré and Madden (1975) in the model of causation which they call *natural necessity*:

cause is the whole set of necessary conditions sufficient for an effect. . . . A forest fire is caused by lightning striking the tree, dry underbrush and a prevailing wind. But why stop there? Oxygen in the air is also a necessary condition, but so is the presence of the atmosphere around the earth, the presence of the planet itself, and so necessary conditions are sought *ad infinitum*, backwards in time and across all space. (p. 136)

The Proposal

The crucial point for the psychological resolution of the free will problem is the proposal for two modes, or belief states, to conceptualize the causes of human behavior. One belief state, represented by the views of Pollio/Henley and Rychlak, understands the causes of human behavior in terms of some agent that comes to terms with the environment and acts for the sake of achieving a goal. The opposite, incompatible belief state understands the causes of human behavior in terms of some disjunctive activity presumably in the nervous system. These two belief states are equally valid in an absolute

sense, but they are not equally effective across all situations and circumstances. *Each deserves parity in theorizing and scientific respectability.*

Within each belief state, some causal factor monitors and controls the normal operation, or initiates a precipitous departure from the normal course of events. The empirically unanswerable metaphysical question remains: How does the novel adaptive response originate? Because the metaphysical premises of both modes are not falsifiable, neither is more scientifically justifiable than the other. Therefore, the appropriate criterion for the value of each mode depends upon their relative utilities, not proof of truth or falsity.

In my view of the intentional belief state, the causal factor is a spiritual agent, which operates in some mysterious way through the action of a will having two aspects or functions which are not discretely different, but still distinguishable. One part comes to terms with the environmental Gestalt, or acts for the sake of those existing goals which are environmentally related. The other part carries out the dispositional agendas of the causal agent. In the mechanistic mode the parallel role (of non-agent) is performed by some mysterious neural activity of creation. In Skinner's language, it is a "twist" or "mutation" of habits that is not goal directed, but may be consolidated by differential reinforcement, contingent upon the resulting effects.

I would not, as Rychlak thinks, claim to disprove the concept of free will if I could predict any human behavior. I did discuss the linguistic problem with the term "free will." I stated that empirical evidence for an entirely or literally *free* will is a logical impossibility. One proves the existence of a viable will only by successfully *predicting* behavior based on the theory of will.

Rychlak objects to my concept of will as "merely" a response to the environment, although later he does quote me as saying that the responsive will can also "originate stimulus-independent behavior." In fact, I affirmed existence of a "telic free will" to account for the behaviors that were unexplainable in terms of heredity/environmental influences. An entity which merely responds to the environment is not an agent at all.

As Rychlak says, precisely how the will originates behaviors is indeed not spelled out in my formulation. The same criticism can, of course, be levelled at all existing psychological theories. This criticism from Rychlak (1983) is perplexing because he has previously denigrated the question of "How?" a behavior is produced, in favor of the "Why?" question.

Rychlak apparently takes exception to my conclusion that "Telic behaviors are . . . predictable." If they were not, there could be no science of telic behaviors. Apparently at one time Rychlak reads me to say that telic, free-will behaviors are essentially random, and later he reads me to say that telic free-will behaviors are completely predictable. Actually, my belief is exemplified by the Pollio/Henley phrase of "choices within limits," which indicates a dual role for the human agent: (a) to be responsive to environment

and heredity; and (b) to be creative, showing free choices within flexible limits. I meant to include Rychlak's teleresponsivity within the concept of responsive will.

Rychlak accused me of postulating a will that is "out there." In fact, the Executive is virtually synonymous with Rychlak's (1983) concept of the Person, as in his definition of teleosponding: "The person's taking on (premissing, predicating) of a meaningful item (image, word, judgmental comparison, etc.) relating to a referent acting as a purpose for the sake of which behavior is intended" (p. 219). Therefore, there must be a predicator, or agent who predicates. To say that the response is predicated on the way a person organizes a situation is little different from saying that the person acts as he or she wants to. This is a "just so" interpretation for which Skinner (1953, 1971) has been so justly criticized (e.g., Dennett, 1981).

What is the nature of the person, or causal agent? In the Pollio/Henley and Rychlak view, it cannot simply be mechanical. Rychlak (1983) opposes mechanistic interpretations, as reflecting efficient cause, or "how?" behaviors come about, rather than "why?", or final cause. The dictionary tells us that the term mechanical implies "machinelike" and "spiritless"; the opposite obviously must be "non-machinelike" and "spiritual." I read Rychlak (1977) as proposing a "Person" who is "out there" when he says,

We do not deny that our willingness to assign responsibility to the individual means that at some point in the course of behavioral description we may say that the behavior is up to the person, and although we can give the odds that he will choose this way or that, what he actually "does" is *in principle* not determined by our actuarial rule but by *his* decision. (1977, p. 491, original emphasis)

Clearly, the person construct is responsive to the environment only if it chooses to be, and therefore it is not a part of the environmental-hereditary causal mechanisms. Therefore the "Person" must refer to a spiritual agent, or driver. That seems to be the only alternative to a mechanistic entity, no matter how dynamically such is described.

The Evidence

My empirical results simply affirm the usefulness of the two modes of conceptualizing the causation of human behavior. Some of the data can be more easily understood in terms of a transcendental human agent, whereas other data can be adequately explained by the constraints of physical nature and environment.

The sheer sensitivity of subjects to instructions in my study implies teleosponding. Undoubtedly, a relatively minor change in my research protocol could have induced the subjects to come to terms with the environment by

choosing the telic response of trying to act different or to be creative. For example, I predict that merely telling the subjects that their choice of seats would tell the researcher something about their free will would change a trivial choice into a very important one, and therefore produce a drastic change in the goals of the subject. The several cases of verbal feedback in my study support this interpretation. The Pollio/Henley observation, that the verbal reports indicated an obligation on the part of these students to justify their responses, is very cogent. All of these verbal reports indicated final cause, or purposeful, bases.

Pollio and Henley are correct in concluding that the kind of perspective used in collecting the data is intimately related to the ultimate interpretation of the data. For example, Watson (1913) freely admitted that his experience of working with rats largely determined his mechanistic theoretical orientation. In contrast, clinicians see the need for a theoretical concept of transcendental human agency (e.g., Yalom, 1980).

The contrast between first-person and third-person perspectives fits nicely into my proposal for different belief states. Some behaviors can easily be handled by the third-person perspective, which tends toward S-R interpretations, such as the scream of pain when the dentist's drill heats up a nerve. Other behaviors can become theoretically manageable only if considered in first-person terms. For example, how would one account for a decision of the dental patient to withhold the scream? Moreover, certain social phenomena, such as the prisoner's dilemma and social loafing, can be understood more easily in intuitive terms.

To illustrate this point, I performed a casual little study on four of my psychologist friends. They were instructed to imagine themselves, under the same basic situation as in my target study, as taking any seat that would *not* in all likelihood be taken by the other subjects in the study, given the same instructions. As expected, all of the respondents performed a functional introspection about their decision process — a first-person perspective. The tendency is to imagine what the other subjects are imagining what you are trying to imagine, and so forth. Incidentally, there was, as expected, no consistency in reported seat selection.

Discussion

The Principle of Complementarity (Harcum, 1991; in press) proposes two incompatible states of belief about the causes of behavior which are separate, distinct, and incompatible; therefore, mechanisms or agents from one mode of thinking must not be mixed with mechanisms or agents from the other state. Such a theoretical mixture is like a machine run by a ghost or demon or homunculus which fills the gap in knowledge about how the machine

works. The response selection process is described in terms of a will that selects from a repertoire of responses which have been provided by the environment — a choice within limits. Rychlak accepts the Pollio/Henley view, but then correctly points out that past and present personal choices can influence the relevant limits in any given situation. Therefore, as Bandura (1986) discusses, the effects are not separate. I agree with the Pollio and Henley statement that the person's behavior "always depends on the pattern of stimulation *as experienced by the person in that situation.*" There is a proper concern for environmental restraints in the form of "the pattern of stimulation" (p. 118).

Although both commentaries seem to achieve a coherent view of a unitary process of "coming to terms" or "acting for the sake of," I suspect that, despite the humanistic language, the theories of both Pollio/Henley and Rychlak are more like mechanistic views with a hidden and unacknowledged ghost. Without an agent, the conception of a "pull" (final cause) from an environmental incentive is just as mechanistic as the conception of a "push" (essential cause) from stimulus events. Both Hebb (1949) and Osgood (1956) made the point that the distinction between stimulus and response is not discrete and the temporal ordering is not invariant even in the context of mechanistic (mediational) theories, as did Lichtenstein (1984) later in the context of inter-behavioral theory. The viability of the theories in both commentaries on my article depends upon "the Person" to drive the machine. For example, consider the phrase: "The person makes sense, or comes to terms," and "the person is free to fix the grounds for the sake of which he or she will be determined." Both of these phrases imply an agent (i.e., "Person") whose nature is not described.

The Pollio/Henley and Rychlak solutions to obviating the free-will issue entail the postulation of a Person who is responsible for all behaviors. It does not solve the problem of describing the behavioral processes by which that person comes to terms with the environment. I submit that "The Person" is functionally equivalent to my "Executive." The postulation of such an agent is necessary because the individual organism does more than will. It also perceives, cognizes, feels, and learns. Without such functions it would be impossible for the organism to come to terms or respond for the sake of.

A completely mechanistic concept of the human will would merely generate semantic arguments, and would not provide the advantages of the conception of a transcendental will. Rychlak occasionally gives the impression of favoring a mechanistic will in his zeal to make the conception of human will scientifically respectable. I submit, however, that a theory based on a mentalistic ghost is just as scientific as a theory based on a gremlin in neural action. This is the point made by Attneave (1961) in his defense of homunculi. A viable theory may include a ghost if it nevertheless also specifies some mechanism which can be used to predict behavior. Such mechanisms distinguish between a theory and a myth (Deese, 1972).

A mechanistic system and a spiritual driver are necessarily incompatible within one mode of thinking. This is what I understand Rychlak (1977) to be saying: "Either one accepts a final-cause construct as the legitimate cause of behavior in at least some situations, or he does not" (p. 491). If the "Person" can be reduced to other mechanisms, then the theory is mechanistic. I call this the "Gremlin Connection," to refer to a mechanistic stutter, or "glitch," in the body which produces a spontaneous (unintentional) and unpredictable disjunctive change in the responses. The connections by the gremlin can be explained only in terms of actions by other gremlins and other mechanisms in an infinite regression. The gremlin is neither sentient nor intentional.

A quite incompatible way of thinking about the same behaviors employs the concept of a ghost. The ghost – in my thinking called the Executive – senses and plans, and also monitors and controls. It may consent to the normal operation of the habitual and reflexive mechanisms, or it may override those mechanisms in order to produce a novel adaptive response.

If Rychlak is proposing a theoretical conception like the interbehavioral approach (Smith, 1984), which also claims to obviate the free-will issue, then the view is ambiguous. A personal cognitive field is basically no different from a Person who comes to terms with the environment, or responds for the sake of something in the environment. The language, however, is not basically different from that often used by Skinner (1953), as follows: "Yet to a considerable extent an individual does appear to shape his own destiny. He is often able to do something about variables affecting him" (p. 228). This exposition is entirely consistent with the language of "coming to terms with" and "responding for the sake of." But Skinner moves on to the difficult question of the nature of that which controls, as follows: "When we say that a man controls himself, we must specify who is controlling whom" (p. 229). Skinner explicitly describes this controlling self as a constellation of ancestral and environmental factors, totally produced and controlled by heredity and present and past environment.

Neither Pollio/Henley nor Rychlak have been explicit about the nature of the Person. It may be a gremlin in the machine, rather than a ghost *outside* the machine. Rychlak objects to a conception of an agent that is "out there." But an alleged agent that is "in there" seems hardly to be an agent at all; such a concept gives us little to choose theoretically between Skinner and Rychlak. Rychlak (1983), in fact, sees telic overtones in Skinner's arguments. Because the disjunctive causation is apparently some sort of verbal twist in both cases, it matters little whether Rychlak's theory can be incorporated into Skinner's views or the reverse.

The proposal for an "in-there" concept of agency is an unnecessary sop to a narrow conception of science. The "in-there" Gremlin and the "out-there" Ghost are equally scientific insofar as they permit predictions of behavior.

The relative merits of the concepts are determined by the number and accuracy of predictions of empirical results by each, the relative ease with which they can account for obtained empirical results, and the quantity and quality of the empirical research which they generate.

The following are my specific responses to Rychlak's remaining questions: "*Is it possible to theorize about free will in an extraspective fashion?*" Yes, but I agree with Rychlak that introspective data are probably more relevant in most cases. But the actor-observer effect indicates a clash between two biases, not between a valid perspective and an invalid one. Converging operations from different perspectives are needed to validate a conclusion, rather than arbitrarily deciding which data to trust. Clearly, our conceptions of causation should extend to past interactions of person with environment (Bandura, 1986).

"*Is the willful aspect of behavior situated within a mediational or a predicational process?*" This is a strange question in view of Rychlak's earlier contention that the two modes of thinking were not incompatible. The answer to the question depends, however, upon the mode of thinking. As Gelso (1970) and Dennett (1988) argue, it depends upon which type of data you are responding to, as actor or observer, first person or third person. In the intentional mode of thinking, my concepts of Executive and Responsive Will represent a lack of knowledge that is matched by Rychlak's concept of "Person." In the reductionistic mode, Skinner was equally unaware of how a mutation or twist of habits occurs. Rychlak is incorrect when he asserts that a reductionistic (mediational) model does not make a provision for some occasional disjunctions in the processes between stimulus and response. The difference is that the process is putatively not guided or directed by some agent within the organism, and outside of the S-R mechanisms, so that the organism is not explained as "coming to terms" or "responding for the sake of." Rychlak cannot prove that ancestral factors are not at play in each and every response. If this is what he expects from an empirical test of agency, I fear that he is doomed to disappointment, at least in the foreseeable future.

Rychlak seems to view his definitional cutting of the Gordian knot as a solution to the basic problem. Simply asserting that predication exists does not satisfy theoretically, as Skinnerians would be quick to point out. He asks his theoretical opponents the impossible "How?" question, and devotes himself primarily with the "Why?" question. He contrasts his predication model with a mechanistic model by a misrepresentation of the latter. His notion of predication is undoubtedly an improvement over the concept of twist or mutation, but it is still reductionistic when it omits the prime mover, or agent.

"*Can we describe a free will process as exclusively unidirectional or non-oppositional?*" I completely agree with Rychlak that usually "people behave habitually," but they can "transcend" heredity and environment in some way. The advantage of proposing two modes is that each has advantages and disad-

vantages, which dovetail nicely. There are some conditions in which it is advantageous to emphasize the role of determinism in human behavior, and other conditions in which it is best to emphasize the role of intention. For example, would anyone say, with any measure of reason and profit, that a person with brain damage reveals poor muscular control as a means of coming to terms with the environment, or that the poor motor coordination was undertaken for the sake of the brain damage? We must not overlook the conditions under which the effects of human agency are minimal or nil.

When the person with the disability chooses or declines to use a brace or a wheelchair, we could say appropriately that they were coming to terms with the brain damage, or responding for the sake of such damage. The key issue is whether or not they could have done otherwise (Lehrer, 1966; Rychlak, 1983). If the person refused to use a mechanical aid, then we would consider a method for changing his or her adaptational processes or personal goals.

In summary, the theory which deals with novel responses in terms of a mechanistic Gremlin has the advantage of absolving the human being of personal responsibility, but at the cost of denying quick changes through intention. The theory which attributes novel responses to an intentional Ghost has the disadvantage of emphasizing personal culpability for behaviors, but the optimistic virtue of predicting precipitous changes by personal choice. Therefore, as I have discussed elsewhere (Harcum, in press), the relative value of each theoretical view is based on its consequences, rather than a differential scientific respectability.

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