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The Journal of Mind and Behavior  
Spring 1996, Volume 17, Number 2  
Pages 207-212  
ISSN 0271-0137

**Logical Learning Theory: A Human Teleology and Its Empirical Support.**  
Joseph F. Rychlak. Lincoln, Nebraska: University of Nebraska Press, 1994, 387  
pages, \$35.00, text edition.

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William James once defined philosophy as the habit of always seeing an alternative. In that same spirit, Joseph F. Rychlak, in a long and integrated series of books and articles, calls on psychologists to be more philosophical in the Jamesian sense, and thus more open to alternative approaches to their discipline. Rychlak's recent book *Logical Learning Theory: A Human Teleology and Its Empirical Support* is an application of a naturalistic and rigorous humanism to "experimental literature in cognitive processing, human and animal learning, memory, emotion, motivation, perception, brain functioning, human development, language acquisition, and self-image" (p. xix). This review covers the basic outline or architecture of the book, some of the concepts that are key to understanding Rychlak's systematic position, examples of empirical support, and appreciative and critical commentary.

### *Architecture*

*Logical Learning Theory* consists of ten chapters, a glossary of terms commonly employed in Rychlak's theory, an impressive reference list with over 750 entries, name and subject indexes, numerous figures and tables, and 14 demonstration experiments that illustrate empirical support for the predictions of Logical Learning Theory (LLT) in specific substantive content areas covered in the text. The first two chapters provide a general theoretical overview of LLT along with a critique of the restricted approaches to causality and epistemology encountered in most behavioristic and cognitive psychologies. Chapters 3 through 9 cover specific content areas and provide demonstration experiments. Chapter 10 revisits the basic theoretical approach and demonstrates how it "subsumes concepts employed in traditional outlooks like the Freudian, Jungian, Skinnerian, or existential" (p. xix). The chapter concludes with eight common objections raised against LLT along with Rychlak's rebuttals.

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### Key Concepts

Rychlak, who is Maude C. Clarke Professor of Humanistic Psychology and Professor of Philosophy at Loyola University of Chicago, has done more than any modern scholar to call attention to the problem of causality in psychology. In the Aristotelian tradition, Rychlak argues for a more pluralistic approach to causality that acknowledges an appropriate place in psychology for the operation of material, efficient, formal and final causes. Rychlak believes we will have an outdated and truncated science if we do not follow the lead of modern developments in other sciences, and recognize the centrality of formal causes. Formal causes go beyond the mere stuff of which a thing is made (material cause) and energy (efficient cause) to focus on the causal roles of patterns, configurations, or form qualities. For example, one could imagine two physical objects such as two flying machines consisting of identical materials and propelled by identical fuels. The two machines differ only in form, yet form is one of the important differences that makes a difference in performance. Such an observation is a truism to any engineer, yet according to Rychlak, too many psychologists have been content to advance explanatory frameworks that remain within the limited arenas of material and efficient causes.

Rychlak believes that sensitivity to the operation of formal causes will inevitably be complemented by more openness to the role of final causes. By final causes, he refers simply to the idea that living organisms behave in order to fulfill their plans, purposes and intentions. Human teleology has its origin partly in the structures afforded by formal causes. Unlike the timeless block universe encountered in extreme mechanistic psychologies, a human teleological psychology emphasizes the capacity to look backward and forward in time, to frame, integrate, and anticipate alternative outcomes, and to act for the sake of a specific outcome. Rychlak does not deny that anticipations may themselves be conditioned, but conditioning, especially at the human level is not a simplistic mechanical or empty activity. Rather it is accompanied by metacognitions which are ongoing, evaluative, reflexive, self-monitoring processes that afford information about when we are "on the right track, going off into error, 'getting close' to what is being intended, and so forth" (p. 317).

Rychlak laments the unfortunate confusion of human teleology with deity teleology and points out appropriately that a human teleology does not necessarily presuppose the operation of any kind of supernatural plan. He argues that psychologists are sometimes closed to human and naturalistic teleologies because of the unfortunate and inappropriate assumption that such teleologies mask religious motives.

In addition to his more pluralistic approach to causality, Rychlak calls for a higher meta-level awareness of the strengths and limitations of the perspectives or basic groundings from which we approach our discipline. He identifies four basic perspectives or groundings employed in the study of psychological problems. These groundings include the *Physikos*, *Bios*, *Logos*, and *Socius*. The *Physikos* includes studies of the effects of such physical influences as gravity or atmospheric pressure while the *Socius* includes the study of the effects of such social influences as family, social norms, and status hierarchy. The *Bios*, a traditional intellectual or grounding context, includes the study of relationships between physiological processes and behaviors. The *Logos*, a neglected grounding that affords a role for formal and final causes, has to do with the study of meaning orientations, formulations, plans, and intentions that grow out of the inner logic of the person.

It could be argued that Rychlak is really calling for a more adequate empiricism, an empiricism that affords a rightful place for the things encountered natu-

rally in the world of lived experience. For example, he argues that the deliberative, oppositional, and affective dimensions of experience have too often been ignored by standard psychologies. A psychology that ignores experience or that reduces experience to an alien universe of discourse can hardly count as an adequate empirical psychology. It is my sense that Rychlak would not deny the value of parsimony in scientific explanations, but in any tension between adequacy and parsimony, he would undoubtedly opt for the theory that is adequate to human experience.

Rychlak's emphasis on the importance of meta-level awareness is a possible case in point of something we find in experience that should not be excluded from an adequate empirical psychology. We encounter a stream of events in experience, but we also encounter an awareness of the awareness of this stream of events. This meta-level awareness is as much a part of direct experience as any of the bits and pieces we find in the lower tier of experience. Rychlak's work also suggests the importance of meta-meta level cognitions. Thus, we frame hypotheses and theories about ongoing events in the world and we also frame theories about theories. Much of Rychlak's work, on the critical side, is a theory about the inadequacy of those theories that attempt to do justice to experience and behavior while ignoring formal and final causes and meta-level thinking.

Rychlak also calls for recognition of the human capacity to affirm "the ground or assumption for the sake of which [we] will be determined" (p. 314). His approach to the free will-determinism issue is in the compatibilist tradition. He does "not view people as going through life choosing from moment to moment" (p. 59). Further, he notes that "freely willing organisms can be exceedingly predictable" (p. 63). On the other hand, consistent with many 20th century developments in science, he rejects the determinist notion that all future possibilities are rigidly and mechanically hardwired to the present. Again, consistent with experience itself, Rychlak embraces causality and a kind of free will born out of the complex operations discovered in meta-level cognitions.

### *Empirical Support*

As noted earlier, chapters 3 through 9 cover substantive content areas such as learning, memory, cognition, emotion, and motivation. Historical research along with research generated by Rychlak and his students is offered in these chapters as supportive evidence for major predictions of LLT. One of the strengths of the book is that it affords an informative historical overview of research in a variety of content areas. Rychlak does not deny that some of the research he cites is subject to alternative, and sometimes more parsimonious explanations. Nevertheless, the cumulative effect of the research he cites is to seriously challenge those psychologies that attempt to rely exclusively on material and efficient causes.

One of Rychlak's goals is to demonstrate the role of predication or intention in learning and memory. He argues that "Memory requires a prememorial formulation" (p. 131) and that "predications do not have to be remembered, for they literally create what is to be remembered" (p. 132). He cites numerous studies that demonstrate that appropriate predications and intentions lead to good memory and that "sloppy, indifferent, unintended learning efforts do not result in good memory or performance" (p. 138). Citing research conducted in his laboratory, Rychlak demonstrates that cueing a subject's predications results in superior recall (pp. 147-151). Research on the effects of intention and predication is reminiscent of

the earlier work of pioneers such as Franz Brentano and Oswald Külpe who, like Rychlak, regarded mental processes as active and intentional.

Another goal for Rychlak is to demonstrate the crucial role of oppositionality in human thought processes. Indeed, he admits that it is no "exaggeration to say that LLT must ultimately stand or fall on the claim that oppositionality plays a fundamental role in cognition" (p. 156). Rychlak then calls attention to research that demonstrates the role of oppositionality in cognitive processing. For example, when a word has a clear opposite "this opposite is one of the strongest (i.e., most frequently given) responses to it in a word association test" (p. 157). Infants who are fed when they turn their head to the right, quickly turn left when the food supply is cut off (p. 168). Subjects often reorganize their recall of statements that include a negation such as "The coffee is not hot" in terms of an opposite positive statement such as "The coffee is cold" (p. 169). Subjects are as quick to recognize the opposite meaning of a to-be-recalled sentence as a paraphrased meaning (p. 175).

Oppositionality is a key concept in Rychlak's theory partly because it unpacks some of the meanings of the predicational process and serves as a basis for people to draw reasonable inferences about events in the world. Thus, a statement such as "Mary drove the car" is easily transposed, even by young learners, into "the car was driven by Mary." Such a recasting of an event, to say nothing of recasting it in terms of the past, present, future, or conditional, is part of the reason for the extraordinary versatility in human cognitive processes. Rychlak distinguishes between delimiting oppositionality (involving a bipolar opposite such as left vs. right) and generic oppositionality (involving negations of predicate meanings such as John is not German). In this latter case, we do not know John's nationality, we only know what he is not. Oppositionality makes it possible to recast, reject, or revise meanings in a flexible and adaptive fashion.

The roles of motivation and affect in experience and behavior are of central interest to Rychlak. He prefers the term *motivation* to *drive* because the latter term refers to a mere stimulus or an efficient cause. Motivation, by contrast, is a much richer concept, truer to what we empirically encounter when there are alternative goals and intentions, plans, and strategies for achieving them. Rychlak argues that "Cognition is valuational at its core" and that . . . ideas always have an affective cash value" (p. 196). His language betrays the interesting possibility that cognitions may sometimes be parasitic on affect as well as the opposite. For example, he notes that "it is not drive reduction that shapes a behavior pattern, but rather the sense of affective satisfaction of the person who finds her or his precedent assumptions paying off" (p. 196). If the precedent assumptions are themselves affectively toned, then affect may be a co-equal partner with cognition. The chapter on motivation and affect provides numerous examples of research that demonstrates the role of affect in memory retrieval and in enhancement of word meanings.

### *Appreciative and Critical Comment*

The major contribution of *Logical Learning Theory* is that it opens the door to an experimentally based teleological alternative in content areas such as memory, learning, motivation, and perception. It is Rychlak's concern that these traditional areas in experimental psychology have been dominated by those with a mechanistic bias. Rychlak's bold work provides ammunition for those scientists who, like himself, have doubts about the adequacy of mechanistic philosophy.

Another strength of Rychlak's book is that the reviews of research literature in the various chapters have excellent educational value for the general reader in psychology. This book is a rich source of information even for the reader who disagrees with Rychlak's explanatory framework. The informed reader will have many quarrels with Rychlak's interpretations and sometimes with his omissions. For example, this reviewer fully expected an extensive treatment of reversal shift learning in the context of the discussion of oppositionality. In the typical reversal shift, a formerly rewarded stimulus is no longer rewarded and a nonrewarded stimulus is now rewarded. Bright children often learn a reversal in a single trial as if oppositionality were a core feature of their cognitive style. By contrast, slower learners sometimes learn a reversal at an extremely slow pace, as if they had to extinguish a response to the formerly rewarded stimulus before they can attach responses to the formerly unrewarded stimulus. One need not quarrel with the idea that oppositionality is an intrinsic quality (a genuine part of the *logos*), but there is a middlesized fact that should also be considered. Oppositionality may also be enhanced, learned, or blocked by circumstances in the *bios* or *socius*.

This reviewer agrees with those critics who find the language of LLT to be tedious and bloated. Rychlak's reply is that he wishes to avoid efficient-cause terminology and to introduce precise meanings in accord with his emphasis on formal and final causes. For the time being there is no alternative for readers but to struggle with a ponderous, strange, and sometimes awkward vocabulary. Again, the glossary of terms is especially helpful and thoughtful as a way of assisting the reader to revisit meanings of terms.

My major criticism of Rychlak is not so much with the positive presentation of his theory as with his constant attacks on psychologies that emphasize material and efficient causes. The emphasis on material and efficient causes in an experimental approach to behavior is relatively recent, dating from the early part of the present century. To be sure, there were earlier mechanistic philosophies, but a mechanistic approach to understanding behavior coupled with experimental techniques is a relatively recent development. Why not provide a friendly climate for such an approach and judge it by the real work it accomplishes in the world? In the larger temporal scheme of things, the experimental and mechanistic approach has had very little time to prove its possible worth. Rychlak's reply to such a criticism can be anticipated. It is the doctrinaire mechanists who have been the dominant force in psychology and they are the ones most guilty of creating a monistic orthodoxy that shuts the door on alternative approaches to the discipline.

Indeed! That is why some of us hope for a more pluralistic, even anarchistic science, that finds a friendly place for Rychlak and a host of other thinkers including the hard core mechanists.

A final quarrel with Rychlak grows out of his contention that "If we psychologists fail to advance our thinking concerning human behavior, we will fall ever more out of step with the basic assumptions of our very civilization" (p. 308). We may be grateful that people like Copernicus, Galileo, Darwin, Einstein, and Freud did not share that conviction.