DOCUMENT RESUME

ED 286 648 PS 016 859

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TITLE On the Relation of Reasoning and Rationality.
PUB DATE May 87
NOTE 5p.; Paper presented at the Annual Meeting of the Jean Piaget Society (17th, Philadelphia, PA, May 28-30, 1987).
PUB TYPE Viewpoints (120) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Abstract Reasoning; *Philosophy; *Psychology; *Research Needs
IDENTIFIERS *Rationality; Theoretical Analysis

ABSTRACT

It is commonly assumed that psychologists studying human reasoning may safely ignore the normative issue of rationality, and that philosophers may analyze rationality without reference to empirical research on actual human reasoning. Presenting five arguments against such a mutually exclusive dichotomy, this paper concludes that although empirical and normative study can and must be differentiated, they should not be conducted independently of each other. At the very least, psychologists must consider normative evaluation of rationality in order to meaningfully investigate human reasoning and its development, and philosophers must consider empirical research on human reasoning if their conclusions about rationality are to have any relevance to specifically human rationality. Even better, it may be useful to conceive the study of reasoning and rationality as a single, transdisciplinary endeavor in which empirical and normative considerations, though conceptually distinct, are inextricably intertwined. (RH)

ON THE RELATION OF REASONING AND RATIONALITY

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A widely accepted view of the relationship of reasoning and rationality holds that (a) reasoning is an activity of the mind that is properly studied by psychologists; (b) the question of rationality is a question about the normative evaluation of reasoning and is thus a philosophical topic; and (c) the empirical study of reasoning and the normative study of rationality are sharply distinct endeavors and must be pursued independently within the disciplines of psychology and philosophy respectively. The present paper presents and justifies an alternative view, akin to Piaget's broader conception of genetic epistemology (Kitchener, 1986), that distinguishes empirical (psychological) from normative (philosophical) questions but views the study of reasoning and rationality as a single endeavor in which empirical and normative considerations, though conceptually distinct, are inextricably intertwined.

The received view: Separation

The received view is a reaction against earlier views that failed to distinguish actual reasoning from normative rationality. In the nineteenth century, for example, philosophical logic was widely construed as the fundamental "laws of thought".

According to the received view, psychologists should focus primarily on the actual processes of reasoning that people use, including, perhaps, the postulation of abstract cognitive structures that summarize and perhaps explain these processes. Developmental psychologists should concern themselves with describing and explaining age-related changes in these processes and, perhaps, structures. Although some processes or structures of reasoning may be more adequate than others and thus may be designated as more rational, such normative evaluation is a question of philosophy, not of psychology. It has been argued by some psychologists (e.g., Evans, 1983) that attention to normative issues of rationality (e.g., by Cohen, 1981) is not only unnecessary for progress in psychological understanding but may in fact hinder such progress by deflecting attention from the proper focus on describing and explaining empirically demonstrable processes of reasoning.

Presented at the meeting of the Jean Piaget Society, Philadelphia, May 1987. Author's address: Educational Psychology, 1312 Seaton Hall, University of Nebraska, Lincoln, NE 68588-0641.

Philosophical critics of Piaget's genetic epistemology, Quine's naturalized epistemology, and similar views (e.g., Siegel, 1980, 1984) have similarly argued that empirical study of actual human reasoning, though of interest in its own right, is irrelevant to the normative issue of rationality. To attempt to settle normative issues of what is rational on the basis of psychological evidence about how people actually reason would constitute an example of the naturalistic fallacy (inferring an "ought" from an "is").

An Alternative View: Coordination

The normative/empirical distinction is, in my view, proper and important. This does not, however, justify a sharp distinction of philosophical and psychological issues. Five arguments against such a distinction are presented in this section.

1. Explanation of reasoning must include a normative component. It is perhaps possible for a pure psychologist to simply describe processes of reasoning on the basis of empirical data. Any science, however, must explain as well as describe. It is difficult to see how a psychologist can fully explain the reasoning processes people use without considering the adequacy of those processes, which immediately raises the normative issue of rationality. This is especially true with respect to explanation of how and why reasoning processes change over the course of development. It seems highly likely that such changes are due to the need to replace less adequate forms of reasoning with more adequate forms, thus moving toward greater rationality (cf. Piaget's theory of equilibration).

2. People routinely engage in normative evaluation of their own reasoning. Research on metacognition shows that people commonly reflect on and evaluate their own reasoning and that such normative reflection and evaluation is central to the functioning and development of reasoning (Brown, Bransford, Ferrara, & Campione, 1983). Rationality may in fact be usefully defined in terms of self-reflective reasoning and thus inherently has a psychological component (Moshman & Hoover, in press; Moshman & Lukin, in press). Thus normative evaluation, far from being irrelevant to the psychological study of natural reasoning, is in fact central to such reasoning and a critical topic for psychological investigation.

3. Philosophical inquiry is itself a human process. Even when normative evaluation is conducted by philosophers, it is never conducted from an ideal standpoint outside of human cognition. Philosophers are human beings and their conceptual analyses are instances of human reasoning subject to empirical/psychological study. The reasoning of philosophers is often, in fact, usefully understood as an advanced stage in a natural process of development. Recognition of this fact does not denigrate philosophical analysis but situates it in the broader context of human reasoning.

4. Psychological constraints on reasoning should not be ignored in analyzing rationality. Philosophical analysis of rationality that ignores the characteristics and constraints of the actual human mind (e.g., limited processing capacity) is of little use with respect to evaluating or improving the rationality of human beings (cf. Cherniak, 1986). Philosophical work on rationality need not limit itself to reasoning processes that people actually use, but its relevance to human beings is questionable unless it considers fundamental constraints of the human mind.

5. Application of psychological knowledge about reasoning cannot be justified without reference to rationality. Purely psychological research on reasoning, in ignoring the rationality or irrationality of the processes studied, would not only be an intellectually shallow endeavor but would have virtually no useful applications. One cannot justify any educational or psychotherapeutic intervention with respect to reasoning unless there are grounds to believe that the reasoning one is trying to teach or facilitate is "better" (i.e., more rational) than the reasoning one is trying to replace.

Conclusion

It is commonly assumed (a) that psychologists, in studying human reasoning, may safely ignore the normative issue of rationality, and (b) that philosophers may analyze rationality without reference to empirical research on actual human reasoning. This paper concludes that, although empirical and normative study can and must be distinguished, they should not be conducted independently of each other. At the very least, psychologists must consider normative evaluation of rationality in order to meaningfully investigate human reasoning and its development, and philosophers must consider empirical research on human reasoning if their conclusions about rationality are to have any relevance to human rationality. Even better, it may be useful to conceive the study of reasoning and rationality as a single, transdisciplinary endeavor in which empirical and normative considerations, though conceptually distinct, are inextricably intertwined.

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