

## Book Review

John L. Pollock and Joseph Cruz, *Contemporary Theories of Knowledge*, 2nd edition, Lanham, MD: Rowman & Littlefield, 1999, x + 262 pp., \$22.95 (paper), ISBN 0-84768-937-9.

If we may judge by the publication of general introductions to the subject, the field of epistemology is alive and well. Pollock and Cruz's *Contemporary Theories of Knowledge*, the second edition of John Pollock's early book (1986) of the same title, occupies a field that includes Jonathan Dancy's *Introduction to Contemporary Epistemology* (1985), Michael Williams' second edition of *Groundless Belief* (1999), and his more recent *Problems of Knowledge: A Critical Introduction to Epistemology* (2001), Laurence Bonjour's *Epistemology: Classic Problems and Contemporary Responses* (2002), and Michael Welbourne's *Knowledge* (2001), to name just a few. Each book takes us on a tour of 20th century epistemology, from foundationalism to coherentism and naturalized epistemology. Among these epistemologists, however, only Pollock and Cruz can really lay claim to ultimately doing some form of naturalized epistemology itself. Although *Contemporary Theories of Knowledge* begins with traditional Cartesian skepticism, it ends with a presentation of what Pollock and Cruz call 'direct realism,' much of the support for which comes from Pollock's OSCAR Project, an attempt to build what he has called an 'artilect,' an artificial reasoner.

This is largely a superset of the first edition of *Contemporary Theories of Knowledge*, 46 pages and two chapters longer. The first edition included an appendix on the Gettier problem. The second edition scuttles the appendix. Pollock and Cruz claim that the Gettier problem is not about procedural justification, which is the focus of their work, and so they find Gettier counterexamples and the definition of knowledge largely irrelevant to their concerns. The expansion to seven chapters from five takes place toward the end of the book, where the original "Epistemic Norms" chapter of the first edition (Chapter 5) is broken up in the second edition into "Epistemic Norms" (Chapter 5), "Epistemology and Rationality" (Chapter 6) and "Direct Realism" (Chapter 7). No information is provided about Cruz's specific contributions as the second author in this second edition, and thus he shares responsibility for the revision of the entire book. Occasionally the text makes explicit references to positions taken by Pollock individually.

Pollock and Cruz begin with an elaborate science fiction brain-in-a-vat story to motivate global skepticism. While this is an appropriate start for an introductory text, this style of presentation is not sustained through the rest of the book, and



novice epistemologists will find much of the book rough going. The authors state that they have the dual purpose of providing an introduction to epistemology and presenting a sustained argument for their view. The book is much more successful in achieving the latter goal than the former. Epistemological theories are carefully distinguished and discussed, and diligent readers are likely to find Pollock and Cruz's navigation through the twists and turns of 20th century epistemology a rewarding adventure. This is due, in large measure, to the fact that the authors have a clear vision of where epistemology should be headed; their presentation of the recent history of epistemology is designed to make that vision clear.

Very little space is devoted to skepticism in this book. This is somewhat surprising, since Pollock and Cruz claim that all the skeptical arguments "that have actually been advanced in philosophy" are flawed, and are best taken as *reductios* of one or more of their premises (p. 7). It is hard to see how their claim can be accepted without either a thorough review of all skeptical arguments or an argument that undercuts all forms of skepticism. But Pollock and Cruz do not think a review or argument is necessary. In response to inductive skepticism, they write: "But there is no reason why we should have to prove the skeptic wrong. We already know that he is wrong. One of the things we are certain about right from the beginning is that we can acquire knowledge of general truths on the basis of induction" (p. 20). I cannot find any place where the authors demonstrate the certainty of the claim that we acquire knowledge by induction. What they do argue is that the initial plausibility of skeptical conclusions is lower than that of the falsehood of one or more premises for such conclusions. It does not follow, however, that we have certainty about the knowledge conferring property of inductive inference.

The limited attention to skepticism is connected with the authors' contention that the real action in epistemology is elsewhere, namely in accounting for epistemic norms. Justification is the central concern of epistemology, and justification is understood as 'procedural justification,' that is the norms that govern how we ought to form beliefs. Pollock and Cruz treat foundationalism, coherentism, internalism, externalism, and other epistemological theories as offering accounts of procedural justification, rather than as presenting responses to skepticism. In a later chapter, Chapter 6, the authors have a great deal to say about the methodology of naturalized epistemology, and they do not shirk the difficult philosophical questions that arise from the effort to distance epistemology from traditional skepticism.

Pollock and Cruz distinguish doxastic from non-doxastic theories of epistemic justification. Doxastic theories are theories that take justification to be explicable entirely in terms of inferential relations among beliefs. Non-doxastic theories admit that belief and inference is an important part of justification, but hold that there's more to it. Beliefs can also be brought about by non-beliefs, and justification needs to take into account these non-doxastic processes as well. Thus in addition to the more widely known distinction between internalist and externalist theories, where the issue is whether the epistemic agent has access to the reasons for belief, and where the internalist says the agent must have access to the justifying reasons and

the externalist denies this, Pollock and Cruz carve up the epistemological landscape in an illuminating way. They argue that any doxastic theory is doomed. This would suggest that they favor some form of externalism, since externalist theories do not require that agents possess the reasons for their beliefs. But Pollock and Cruz also take externalism to task. They conclude that the only viable theory of procedural justification must be one that is both non-doxastic and internalist. Happily, their own view, direct realism, is left standing.

Although Pollock and Cruz describe the subject of their book as ‘meta-epistemology,’ with a greater concern for kinds of theories than individual theories, the arguments presented against alternatives to direct realism include detailed analyses of several internalist formulations of foundationalism, coherentism, and a number of externalist alternatives. A criterion of adequacy for epistemic norms is that such norms can actually be instantiated. Thus a chief complaint against foundationalism is that we cannot form the kinds of appearance beliefs the foundationalist says must serve as the foundation. Rather, the authors note, the beliefs provided by perception are physical object beliefs, not beliefs about how things appear. It does not follow, however, that our physical object beliefs are foundational. Such beliefs are also defeasible, that is, subject to revision in light of new evidence.

In light of their attack on foundationalism, which bears a strong affinity to the landmark critique of givenness leveled by Sellars in “Empiricism and the Philosophy of Mind” (1956), it is surprising that Pollock and Cruz are unsympathetic to Sellars’ own argument against foundationalism in the only place where they discuss Sellars’ views. Sellars, they claim, argued that beliefs about how things appear, rather than being foundationalism, are themselves inferred from other beliefs. Pollock and Cruz do not explain Sellars’ argument. If they had, they might have noted that it is very close to their own. One masters appearance talk, according to Sellars, only after one has learned that physical object beliefs are defeasible. We infer that an object appears red, and withhold endorsement from the claim that the object is red, when the evidence, for example that we are not in ordinary perceptual circumstances, defeats the belief that the object is red.

Pollock and Cruz claim that this argument fails, because it holds only for comparative appearance judgments and not against non-comparative judgments. The distinction between comparative and non-comparative appearance judgments was introduced by Chisholm in *Perceiving: A Philosophical Study* (1957). In the first edition of *Contemporary Theories of Knowledge*, Pollock cites Chisholm and attempts to show how the distinction counts against Sellars. In this second edition, the authors simply claim that the distinction cuts against Sellars, without argument or explanation. The reader is left wondering both about the argument and why the distinction would not cut against Pollock and Cruz’s own Sellarsian perspective later in the same chapter.

A well-known problem with coherentism is accounting for perceptual input. If coherentists hold that there are no non-inferential foundational beliefs, then perceptual beliefs must be formed by inference. But perception seems to provide

beliefs directly. Pollock and Cruz diagnose the problem as the coherentist's commitment to the doxastic assumption that belief can only be brought about through inference by other beliefs. One way of remedying the situation is to adopt externalism, and tell a causal story about how beliefs are caused by the external world, justified in virtue of reliability or some other naturalistic relation. Pollock and Cruz think that externalism rests on another, equally problematic assumption, which they call the 'intellectualist model.' Suppose we adopt reliability as an epistemic norm. We can then ask whether the causal process of perception confers justification on beliefs formed by perception. In order to do so, however, we have to know under what conditions the perceptual beliefs are being formed. Are we talking about human perception or perception in other organisms or machines? Is it perception on earth, or somewhere else in the universe? Specifying the conditions under which perception takes place makes use of reasoning, and hence over-intellectualizes our epistemic practices.

Why is the intellectualist model and the appeal to reasoning a problem? Pollock and Cruz believe that the model leads to an infinite regress. If we specify the conditions under which perceptual beliefs are justified, then epistemologists, if not epistemic agents themselves, must justify those norms. But they will need prior norms to justify the norms involving perception, and then further prior norms to justify those norms, and so on. To stop the regress, Pollock and Cruz propose that perceptual beliefs are justified not by reasons, but by internal perceptual states. They call such states 'percepts' and the view 'direct realism.'

The details of direct realism and related methodological considerations are presented in the final two chapters. Crucial to this account is the development of a notion of justification in which beliefs can receive support for, or be defeated by, internal mental states that are not themselves beliefs. Percepts, though not beliefs, have propositional content, and bear inferential relations to beliefs. Specifically, they define perception as reasons: "Having a percept at time  $t$  with the content  $P$  is a defeasible reason for the cognizer to believe  $P$ -at- $t$ " (p. 201). What justifies this principle? "The answer forthcoming from the account of human rationality proposed above is that nothing justifies this. This is one of the basic principles of rational cognition that make up the human cognitive architecture" (p. 201). It is at this point that normative and descriptive features of epistemic agency are joined. Pollock and Cruz introduce the OSCAR Project, Pollock's long-term goal of building an artificial reasoning agent, as the evidence for their theory.

Throughout their critique of other theories in the first five chapters, Pollock and Cruz insist that an epistemological theory must be capable of implementation. Since few epistemologists have attempted to show that their theories can be implemented in a model or artificial system, Pollock and Cruz must appeal to empirical evidence to establish the problems of implementation in these views. Very little empirical research is cited, however, and in places the authors make unsupported, if plausible, empirical claims. In their discussion of primed memory, for example, the authors claim that we use 'built-in search procedures' to find items in 'un-

conscious memory' (p. 54). Such claims should be backed by studies in cognitive psychology. However, Pollock and Cruz are much more comfortable with the direct implementation methodology, and their presentation of it is a great strength of the book. While epistemological issues crop up in the Knowledge Representation sub-field of Artificial Intelligence, it is rare to see the influence in the other direction. Few epistemologists have the handle on Artificial Intelligence that is presented in this book. Pollock and Cruz make a convincing case for an approach that seeks the most general constraints on any epistemic agent, natural or artificial. On their view, attempting to build an 'artilect' is as important as doing empirical studies of human inferential practices.

*Contemporary Theories of Knowledge* forces the reader to confront one of the most important issues in epistemology, the relationship between non-cognitive physical states of the world, including states of the external world and states of the cognizer herself, and belief. The separation of the doxastic/non-doxastic distinction from the internalism/externalism distinction helps the reader focus on this issue. It is clear that the authors are aware that they are attempting to navigate between the Scylla of doxastic theorizing and the Caribides of the non-doxastic approach by introducing internal non-belief states that have propositional content, serve as reasons for belief, but do not count as beliefs themselves. Pollock and Cruz have given both the advanced student of epistemology and the professional epistemologist a useful framework in which to consider the central questions of naturalized epistemology.

## References

- BonJour, L. (2002), *Epistemology: Classic Problems and Contemporary Responses*, Lanham: Rowman & Littlefield.
- Chisholm, R. (1957), *Perceiving: A Philosophical Study*, Ithaca: Cornell University Press.
- Dancy, J. (1985), *Introduction to Contemporary Epistemology*, Oxford: Blackwell.
- Pollock, J. (1986), *Contemporary Theories of Epistemology*, Lanham: Rowman & Littlefield.
- Sellars, W. (1956), 'Empiricism and the Philosophy of Mind', in H. Feigl and M. Scriven, eds., *Minnesota Studies in the Philosophy of Science* 1, Minneapolis: University of Minnesota Press.
- Welbourne, M. (2001), *Knowledge*, Chesham: Acumen.
- Williams, M. (1999), *Groundless Belief: An Essay on the Possibility of Epistemology*, second edition, Princeton: Princeton University Press.
- Williams, M. (2001), *Problems of Knowledge: A Critical Introduction to Epistemology*, Oxford: Oxford University Press.

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