NATURALISM IN EPISTEMOLOGY *

Richard Feldman
Department of Philosophy, University of Rochester, USA

Abstract
Recent work in epistemology reveals deep divisions over the very nature of the field. Advocates of naturalized epistemology hold that epistemology is crucially dependent upon empirical results from the cognitive sciences. I argue that some epistemology projects, such as the effort to help people to reason better, undoubtedly do require empirical input. In spite of the naturalists’ arguments to the contrary, there’s no good reason to think that empirical results will play any significant role in the central epistemological project, constructing a general abstract analysis of knowledge and justification. The formulation of specific principles about perception, testimony, memory and other potential sources of knowledge and justification either amounts to specifying mere special cases of the abstract general analyses or else is a purely empirical matter. Finally, whether responses to skepticism require input from science depends entirely upon the nature of the response. Thus, a large part of traditional epistemology remains independent of science.

Key Words: epistemology, naturalized epistemology, naturalism, justification

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I. Introduction

Epistemology is the branch of philosophy that studies philosophical questions about knowledge and rationality. Anyone who takes a look at recent work in epistemology is bound to notice a significant and contentious division within the field. The division runs deeper than standard theoretical differences about important, even fundamental issues. Epistemologists are, or at least appear to be, deeply divided over the very nature of their field and its relation to natural science. Those who hold that epistemology is or should be in some important way connected to or dependent upon empirical results from the sciences that study cognition are often said to favor “naturalized epistemology,” while those who believe that epistemological questions are largely to be answered independently of those scientific results are often called “traditionalists” or “armchair epistemologists,” though the labels applied to them often take on a harshly pejorative tone.

By most accounts, the source of contemporary naturalism is the work of W.V.O. Quine, particularly his essay, “Epistemology Naturalized.” Quine begins this essay by discussing attempts to derive statements about the world around us from statements about our own sensations. This of course is the project for which Descartes is famous. The point of such efforts is to establish the certainty of our beliefs about the world, the underlying idea being that the statements about our own sensa-


tions are our ultimate data for our beliefs about the world, and we can be completely certain about them. If we can strictly derive our beliefs about the world from our sensory data, then we can be certain of the derived truths about the world as well. Quine argues that such efforts to ground our beliefs about the world have failed. The proposed derivations just don't work. If Quine is right, and he surely is, about the proposed derivations, an obvious alternative strategy is to examine the possibility that our beliefs about the world are well supported by our sensory evidence, even if not strictly derivable from that evidence. There are grades of epistemic support weaker than that provided by strict derivation.

Instead of considering these alternatives, Quine recommends what on the surface seems to be the abandonment of epistemology altogether. He writes:

The stimulation of his sensory receptors is all the evidence anybody has had to go on, ultimately, in arriving at his picture of the world. Why not just see how this construction really proceeds? Why not settle for psychology?²

Quine seems to be recommending that we abandon the effort to show that we do in fact have knowledge and that we instead study the ways in which we form beliefs. That is, he urges that we study the psychological processes that take us from sensory stimulations to beliefs about the world.

A little later in the same essay Quine makes essentially the same point. In a much quoted passage, he writes that if we follow his advice:

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² Ibid., p. 20.
Epistemology, or something like it, simply falls into place as a chapter of psychology and hence of natural science. It studies a natural phenomenon, viz., a physical human subject. This human subject is accorded a certain experimentally controlled input—certain patterns of irradiation in assorted frequencies, for instance—and in the fullness of time the subject delivers as output a description of the three-dimensional external world and its history. The relation between the meager input and the torrential output is a relation that we are prompted to study for somewhat the same reasons that always prompted epistemology; namely, in order to see how evidence relates to theory, and in what ways one's theory of nature transcends any available evidence. . . . But a conspicuous difference between old epistemology and the epistemological enterprise in this new psychological setting is that we can now make free use of empirical psychology.  

Of course, another conspicuous difference between the old epistemology and the new epistemology is that they study strikingly different topics. The old epistemology was interested in questions about rationality, justification, and knowledge. The questions that most intrigued the old, or traditional, epistemologists were questions about what exactly it was to know something and whether we really did have knowledge in the range of cases in which we ordinarily thought we did. One way to think of these questions is as questions about whether an epistemic support relation—a justifying relation—holds between our basic evidence and our beliefs about the world. Epistemology thus prominently includes evaluative questions, questions about the quality of evidence. Quine has proposed ignoring

\[\text{bid.}, \text{p. 25.}\]
these evaluative questions and investigating instead the causal connections between our sensory evidence and our beliefs about the world. Thus, if we follow the Quinean recommendation, we'll study the same relata—our basic evidence and our beliefs about the world. However, we will study a different relation. In the original case, we looked to see if there was an epistemic support relation between the data and the beliefs. In the new case, we look to see the nature of the causal connection between them.  

The Quinean view that we should abandon epistemology for psychology is not widely accepted by contemporary naturalists in epistemology. However, a more modest descendant of his view is extremely popular. This current view holds that, while there are evaluative questions to pursue, empirical results from psychology concerning how we actually think and reason are essential or particularly useful for making progress in addressing evaluative questions. I will call this view "Methodological Naturalism," to contrast it with the "Replacement Naturalism" advocated by Quine.

Methodological naturalism has many advocates, as can be seen from the following claims:

"Thus, a mix of philosophy and psychology is needed to produce acceptable principles of justifiedness."  

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"... any epistemologist who rejects skepticism ought to be influenced in his or her philosophical work by descriptive work in psychology."

"... that results from the sciences of cognition may be relevant to, and may legitimately be used in the resolution of, traditional epistemological problems."

"[Philosophers] ... ignore [recent experimental work about human reasoning] at their own peril."

"[I]t is hard to come up with convincing normative principles except by considering how people actually do reason, which is the province of descriptive theory."

No doubt the philosophers just quoted were engaged in different epistemological projects and their views about the exact role psychology might play in their efforts differed accordingly.

It is helpful to see methodological naturalism both as a descendent of a Quinean view and as a rival to another methodology widely used by epistemologists. Epistemologists who proceed in this other way often attempt to analyze epistemological concepts and to formulate epistemic principles. They typically

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10 Haack, for example, is generally less enthusiastic about naturalism than the other authors cited.
propose analyses and principles and then revise them in the light of potential counter-examples. These examples are hypothetical, some are realistic and some are not. We often have very clear intuitions about the epistemic status of beliefs in the more fanciful cases, so these cases provide good tests of the adequacy of the proposed analyses. Analyses and principles not refuted by counter-examples are judged to be correct. To evaluate potential counter-examples, epistemologists rely upon their ability to make correct reflective judgments about whether there is knowledge or justified belief in the situations described in the proposed examples. For these purposes, it does not matter how people actually form beliefs, since the analyses and principles are supposed to be adequate to all possible cases. As long as an example is possible, adequate philosophical principles must get it right. Since this methodology does not depend upon information about how people actually reason, its practitioners can proceed in ignorance of the results of the sciences that study human cognition. Consequently, we can call what they do 'armchair epistemology.'

The debate over naturalistic epistemology and armchair epistemology is extremely active and at times acrimonious. An enormous number of recent books, articles, and conferences has been devoted to this topic. In this paper I will examine some of the arguments designed to support methodological naturalism. My discussion will, I hope, dampen some of the enthusiasm of the more extreme methodological naturalists. On the other hand, I will argue that some defenders of the traditional armchair methodology have also overstated what can be established without the input of science.
II. Clarifying the Issue

As soon as one begins thinking about the connection between epistemology and psychology, one is confronted with a difficult question: What counts as epistemology? The answer affects the plausibility of methodological naturalism considerably. There is no doubt that if epistemology is as expansive a discipline as some think, then methodological naturalism is true. Philip Kitcher, another advocate of methodological naturalism, asks, "How could our psychological and biological capacities and limitations fail to be relevant to the study of human knowledge?"\textsuperscript{11} Obviously, empirical work is relevant to "the study of human knowledge." But this shows its relevance to epistemology only if epistemology is itself as broad as the study of human knowledge. The complete study of human knowledge would, presumably, include historical studies of what people knew when and how knowledge has grown (or been lost) over time, studies in neuroscience concerning the ways the brain processes information, psychological studies of the cognitive processes involved in belief formation, sociological studies about the ways knowledge is transmitted in societies, and so on. While some philosophers may think that they have something to say from their armchairs about many of these topics, no sensible person could think that all such inquiries can succeed without scientific input. So, it is hard to imagine any disagreement with the view that methodological naturalism is true given such a broad interpretation of what counts as epistemology. However, if episte-

\textsuperscript{11} Kitcher, Philip, "The Naturalists Return," \textit{The Philosophical Review} 101 (1992), pp. 53-114. The quotation is from p. 58.
mology addresses only the philosophical questions about knowledge, rationality, and justification, then presumably it addresses something less than the complete "study of human knowledge."

Another account of what epistemology includes also makes methodological naturalism unquestionably true. If epistemology is or includes a systematic effort to help people to reason better, then there is no doubt that it must rely on empirical results concerning the sorts of errors in reasoning that people make and the techniques that might help them improve. Notably, several years ago when Alvin Goldman wrote a paper urging that this project be given serious attention, he chose to call the proposed discipline "epistemics." I think that this was in recognition of the fact that it was a departure from the central issues taken up in epistemology.

Arguing about which of the issues just described count as epistemology strikes me as a dull and futile enterprise. What is clear is that there are certain traditional and characteristic epistemological matters, such as the effort to understand or analyze what knowledge and rational (or justified) belief are, to identify specific principles or methods that yield knowledge and justification, and to defend or respond to arguments for skepticism. There is no doubt that these are traditional questions of episte-


13 I think that if you are seriously interested in helping people to reason better, the branch of philosophy that you'd work in is "critical thinking" ["informal logic"]. I see this as a kind of applied epistemology, related to epistemology in something like the way applied ethics is related to theoretical ethics. Oddly, advocates of methodological naturalism often don't seem to think that such applied work is central to epistemology at all. Their emphasis is usually cognitive psychology or cognitive science.
mology, and it is the value of psychology for the study of these questions that is the topic of this paper.

III. Psychology and the Analysis of Epistemic Concepts

Although there is disagreement about exactly what is required of an adequate philosophical analysis, it is widely agreed among armchair epistemologists that a successful analysis of justification or knowledge will provide necessary and sufficient conditions for the application of those concepts. In other words, it will state conditions that are satisfied in all clear cases of justification or knowledge and not satisfied in clear cases in which there is not justification or knowledge. Some candidate analyses of justification hold that beliefs are justified when they are reliably caused, when they are responsibly formed, when they cohere with the believer’s other beliefs, or when they are well supported by the believer’s evidence. The traditional analysis of knowledge held that knowledge is justified true belief, but more recent analyses add an additional condition designed to deal with the examples proposed by Edmund Gettier, who showed that the traditional trio of conditions is not sufficient.\(^{14}\) On some views, knowledge does not require justification, but is instead reliably caused true belief. Some methodological naturalists seem to think that psychological results concerning human reasoning will play an important role in developing and evaluating these analyses. We’ll consider three reasons for this claim.

\(^{14}\) "Is Justified True Belief Knowledge?" Analysis 23 (1963): 121-123.
1. Adequate Analyses Use Concepts from Psychology

One potential reason for thinking that results from psychology are needed to analyze knowledge or justification is based on the fact that any adequate analysis will invoke concepts from psychology. This is not a promising line of defense for methodological naturalism, but examining it briefly will provide some useful background for what follows.

In "The Naturalists Return" Philip Kitcher argues that recent epistemology displays a return by epistemologists to theories importantly similar to those prominent prior to the antinaturalist and anti-psychologistic views he thinks have been dominant in the 20th century. In the first part of his paper, he describes one way (but not what he regards as the most important way) in which psychology has re-entered epistemology in recent years. Current epistemological folk wisdom holds that prior to 1963 an almost universally held view was the knowledge is justified true belief. Edmund Gettier showed that justified true belief is not sufficient for knowledge. A flurry of analyses of knowledge ensued, as did increased attention to the justification component. According to Kitcher, the apsychologistic tradition denied that "the concepts of psychology are needed to understand what differentiates cases of knowledge or of justification" from their opposites.15 What he sees as a significant development in this period is the realization that knowledge and justified belief must be analyzed in causal terms, more specifically in terms of the properties of the cognitive processes that cause beliefs. The reliability of such processes came to seem important to many epistemologists and reliabilism

became a leading contender among the proposed analyses of knowledge and justification. These newer analyses are to be contrasted with traditional analyses according to which knowledge was understood in terms of good reasons or adequate evidence.

Kitcher sees significance in these developments because with them psychological concepts entered into previously apsychologistic accounts of knowledge and justification, and thus "psychology re-entered epistemology." While the development of causal and reliabilist analyses of knowledge and justification is surely significant, their significance can't derive from the fact that they introduced psychological concepts into the analyses of knowledge and justification. Traditional, non-causal analyses, included psychological concepts as well. They said that knowledge was justified true belief, and surely the concept of belief is as psychological a concept as one can get. Furthermore, traditionalists typically said that whether a belief was justified depended upon the evidence a person had. And, surely, the concept of having evidence is another psychological concept. Furthermore, traditionalists often said that to have a justified belief or knowledge one must base one's belief on adequate evidence. The basing relation also seems to be a psychological relation. Thus, the new naturalists and the old "non-naturalists" all make use of psychological concepts in their analyses. If appealing to psychological concepts in an analysis of knowledge or justification makes one a naturalist, the naturalists have not recently returned. They never left.¹⁶

¹⁶ It is important to emphasize Kitcher's main reason for thinking that naturalism has returned is not the one discussed here.
There are differences between the newer causal theories and many of their predecessors that are noteworthy. The newer ones often make reference to belief-forming processes, whereas the older analyses typically spoke only of evidence and evidential support. There is, then, an added explicit reference to certain things that are likely to figure prominently in psychological theories. Furthermore, some (but not all) causal and reliabilist theories attempt to analyze knowledge or justification in completely naturalistic terms. That is, they attempt to state conditions of knowledge or justification entirely in terms that would find legitimacy in the sciences. Concepts such as the concept of good evidence or the concept of an adequate reason have no place in these analyses. The goal here, presumably, is to fit knowledge and justification into the natural world, to tie these epistemological concepts down to the real world.

Whatever the merits of these causal and reliabilist analyses, for present purposes what is crucial is that they have no important connections to methodological naturalism. From the fact that an epistemologist refers to psychological concepts in her analysis of epistemic concepts, it does not follow that psychological results imply that theory or that the epistemologist must or can use such results to support that theory. The new theories are versions of what Alvin Goldman calls "substantive naturalism," a view that has no clear cut connection to methodological naturalism.\footnote{See Goldman's "Naturalistic Epistemology and Reliabilism," in Midwest Studies in Philosophy XIX, edited by Peter A. French, Theodore E. Uehling, Jr., and Howard K. Wettstein, (Notre Dame, University of Notre Dame Press, 1994), pp. 301-320.}
2. Empirical Results can Lead to Modifications of Analyses

A second argument for methodological naturalism is based on the idea that empirical results from psychology can induce epistemologists to modify or abandon their analyses of knowledge or justification. Both Hilary Kornblith and Alvin Goldman have defended arguments along these lines. Both illustrate their point by showing how results from psychology will lead reliabilists to modify their theory.

Reliabilists hold that beliefs are justified when they result from belief-forming processes that generally lead to truths. At an intuitive level, we might regard beliefs resulting from clear unobstructed views of objects as reliably caused, whereas beliefs resulting from such processes as wishful thinking and guessing seem to be unreliably caused. An initial formulation of reliabilism might be:

R. A belief is justified if and only if it is caused by a generally reliable process.\textsuperscript{18}

(R) seems to have plausible implications for a wide range of cases. However, its implications for beliefs resulting from inductive reasoning are problematic. According to Kornblith, recent empirical results show that inductive reasoning is not reliable.\textsuperscript{19} We are prone to make a number of inductive errors, such as having a bias toward previously held views, generalizing


\textsuperscript{19} "Introduction: What is Naturalized Epistemology?" p. 12f.
from too few instances, and ignoring base rates. This causes a problem for (R). If reliabilists were to hold that there is just one process—inductive reasoning—that is invoked in all cases of inductive reasoning, and that process is not reliable, then reliabilists are stuck with the skeptical conclusion that we have no justified beliefs as a result of inductive reasoning. But this conflicts with the obvious truth that we sometimes do get justified beliefs from inductive reasoning. Not all our inductions are erroneous. Kornblith thus concludes that these empirical results show that epistemologists must modify or abandon reliabilism. So, their epistemology is influenced by empirical results. Alvin Goldman argues in a similar way. He cites empirical results showing that visual object recognition is more reliable in some circumstances than in others. This leads him to reject (R) and to consider instead:

R1. A belief is justified if and only if the cognitive process that caused it is reliable when it operates under the parameter values in which it caused the belief.

Thus, we need not say that beliefs resulting from a single process are all justified or all unjustified. Kornblith's point about induction might lead to a similar revision of simple reliabilism. In light of his arguments, non-skeptical reliabilists ought either to say that there are many different inductive processes, or else relativize reliability to circumstances, as (R1) does. (R1) thus

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20 It's a bit of a stretch to say that empirical results show that inductive reasoning is not generally reliable. At most, they show the existence of widespread errors. But that's far short of showing a lack of general reliability.

avoids the problems faced by (R).

In these cases, knowledge of contingent facts—the fact that people sometimes make bad inductive inferences, the fact that people are able to identify objects better in some circumstances than in others—may influence one's epistemology. The way this knowledge influences epistemology is to make one aware of actual, and thus possible, examples that an analysis of justification must accommodate. It encourages the move from the simpler reliabilism found in (R) to the improved version represented by (R1).

However, these considerations do not provide the materials needed for a defense of methodological naturalism. Neither Kornblith's nor Goldman's argument shows that we really need results from empirical science in order to formulate versions of reliabilism that are good enough to meet the objections raised to (R). Since the analyses are supposed to be adequate to all possible cases, these cases need only be possible in order to show that (R) needs revision. Since it is easy to figure out from our armchairs that examples like these are possible, it is easy to figure out from our armchairs that (R) needs revision. We don't need results from psychology to tell us this.

A further criticism of these arguments for methodological naturalism depends upon what information is available to us from our armchairs. If, as seems reasonable, armchair epistemologists are allowed to make use of common sense information available to all of us in our armchairs, then they are entitled to assume that some inductive beliefs are justified and some are not. That is, they are entitled to assume that we sometimes reason well but that we can (and do) sometimes generalize on the basis of too few examples, ignore relevant information, or let
our emotions influence our inferences. So, not only is the fact that it is possible that some inductive beliefs are not justified available to us in our armchairs, so also is the fact some actual inductive beliefs are not justified. So, if the point of the induction example was to make us see that actual (as opposed to hypothetical) examples reveal we should reject (R) in favor of something like (R1), then it fails to show that results from scientific psychology are particularly useful. Essentially the same point applies to Goldman’s example. The research he mentions may help to make it clear that our perceptual beliefs are better justified in some circumstances than in others, and this requires that reliabilists introduce some sort of relativization to context within their theory. This is the proposal found in (R1). But the conclusion drawn from this research is equally well supported by common sense information available to us in our armchairs. We know that we do better perceptually in some situations than others. We don’t need cognitive psychologists to tell us that we can’t see in the dark or to tell us that not all our inductive inferences are reasonable. We learned that in our armchairs.

Similar points apply, I believe, to other empirical considerations sometimes used to evaluate proposed analyses of knowledge or justification. For example, some versions of coherentism require for the justification of any belief that it be

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22 Notice that the problem for (R) arises from the assumption that there is just one process, inductive reasoning, invoked in all these cases. Given that assumption and (R), we get the unacceptable consequence that either all inductive reasoning is justified or no inductive reasoning is justified. Whether empirical evidence shows that we are mostly wrong in our inductions or not, this result is unacceptable because it fails to make obviously needed distinctions.
part of a fully coherent system of beliefs. Psychological results seem to show that people typically don’t have fully coherent systems of belief. Given the falsity of skepticism, this empirical result shows that versions of coherentism with this requirement must be wrong.\textsuperscript{23} It seems to me that it is rather easy to see, without the aid of empirical results, that a person can have a justified belief about one topic while having incoherencies in distant areas of her system of beliefs. So, the possibility of this sort of case is readily available to us in our armchairs. Perhaps the fact that such cases are actual is also available to us in our armchairs, depending again upon exactly what sort of information armchair epistemologists are allowed to use.

Thus, the case has not been made for methodological naturalism with respect to the project of analyzing the concepts of knowledge and justification. This does not rule out the possibility that psychologists could describe actual examples of a sort epistemologists had not previously considered. If they did, it would be foolish for epistemologists not to test their theories with them. But there’s nothing in what’s been presented so far to warrant advertisements for naturalistic revolutions in epistemology. Based on the arguments and examples considered so far, the evidential relevance of psychology to the effort to analyze knowledge and justification is quite modest.\textsuperscript{24}

\textsuperscript{23} This argument was suggested to me by John Greco.

\textsuperscript{24} My discussion so far has been about attempts to analyze what is allegedly a standard concept of knowledge and justification. I think that we’d reach a similar conclusion if the goal were to elucidate some other conception of epistemic value. So, I don’t think my points are affected by the arguments of those who think our conceptions of epistemic value are somehow suspect or unimportant.
3. Scientific analysis is more useful than conceptual analysis

Some people see philosophy as studying the same issues as the sciences, though in a different way. Philosophy, on this view, takes a more abstract or theoretical approach. While this may be an accurate description of some of the work that goes on under the name of philosophy, I think that it is mistaken or misleading in the current situation. This sort of thinking, however, seems to influence another sort of argument for methodological naturalism. Kornblith presents this argument in a recent paper. Philip Kitcher and Stephen Stich defend similar arguments.\textsuperscript{25} Kornblith begins by disparaging conceptual analysis:

Analyzing our concept of knowledge, to the extent that we can make sense of such a project, is no more useful than analyzing the ordinary concept of, say, aluminum. The ordinary concept of aluminum is of little interest for two reasons. First, most people are largely ignorant of what makes aluminum the kind of stuff it is, and so their concept of aluminum will tell us little about the stuff itself. Second, most people have many misconceptions about aluminum, and so their concepts will reflect this misinformation as well. . . . Now, the same may be said, I believe, of knowledge. Epistemologists ought to be interested in the study of knowledge itself. If we substitute a study of the ordinary concept of knowledge, we are getting at knowledge only indirectly; knowledge is thereby filtered through a good deal of ignorance about the phe-

nomemon, as well as a good deal of misinformation.\textsuperscript{26}

I take Kornblith to be arguing here that armchair methods introduce errors into our account of knowledge, and these errors can only (or can best) be avoided by an empirical study of “knowledge itself.” This argument raises at least two questions. First, is it true that our armchair methodology leads us to introduce errors and misinformation into our account of knowledge? Second, how will the empirical study of “knowledge itself” proceed?

It is surely true that people may have many false beliefs about aluminum. Whether these false beliefs affect their concept of aluminum depends in part upon exactly what enters into a concept. But no matter what concepts are like, were we to try to figure out “what makes [aluminum] the kind of stuff it is”—its physical constitution—using armchair methods, it would be miraculous if we got it right. Surely, empirical science is the only sensible way to learn about the physical nature of aluminum. Kornblith’s case for a scientific study of “knowledge itself” would be strong if there were some errors about knowledge that armchair thinkers tend to make which affect their analyses and would be avoided by his proposed replacement. What are the alleged errors that we make about knowledge?\textsuperscript{27}


\textsuperscript{27} People may routinely have some false beliefs about knowledge. They may, for example, think that they know more than they do. What’s crucial here is
Oddly, Kornblith never says what the errors are. The closest thing to an answer that I can find in Kornblith’s essays is in Section I of “In Defense of a Naturalized Epistemology,” an essay that presents of defense of many of the Quinean theses described at the beginning of this paper. This section, entitled “The Cartesian Tradition,” purports to reveal the failures of Cartesian approaches to epistemology. According to standard accounts of Descartes, he is a foundationalist. He holds that a person’s knowledge is limited to what is foundational for the person or what can be derived from what is foundational. The foundations are limited to propositions about which the person can’t be mistaken. These standards are extraordinarily high. Armchair philosophers have long realized that they leave us with precious little knowledge. Various accounts of knowledge with standards that are more readily met have been proposed. However, without discussing any such accounts in detail, Kornblith dismisses them. He writes,

Of course knowledge is possible if we weaken the standards for knowledge far enough, in particular if we weaken them until we can show that many of our beliefs then pass the standards. But this seems to be nothing more than an exercise in self-congratulation. Why should we care about knowledge so defined?  

Kornblith also claims that weakening the standards for knowl-

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edge below the Cartesian standards undermines epistemologists' ability to give useful advice. He writes, "But if our standards for knowledge are merely designed to allow us to attach the epithet 'knowledge' to whatever it is we pretheoretically believe, then . . . the result is an uncritical endorsement of the epistemological status quo."\(^30\)

The line of thought just described echoes an argument defended by Philip Kitcher in his 1992 article, "The Naturalists Return." This is a long and comprehensive study of naturalism in epistemology, arguing in part that the apsychologistic tendencies of the 20th century are in fact departures from what was standard in philosophy. Kitcher takes non-naturalists to hold that "our favored logical principles are prescriptions for thought."\(^31\) But he thinks that the mere fact that we favor certain logical principles is of no value in establishing that they are meritorious principles. Our principles are good ones only if they actually do enable us to attain our epistemic ends. "Simply asserting that [certain rules] unfold our concept of rationality will be beside the crucial point."\(^32\)

Kitcher illustrates his point by means of Hume's problem of induction. Hume famously asked whether we have any good reason to believe the conclusions of our inductive arguments. We notice that all instances of some sort of object have had a certain property and we infer that the next object of that kind will have that property. Our premise does not entail our conclusion and it turns out that it is extraordinarily difficult to justify these inductive inferences in a way that does not illicitly rely

\(^{30}\) "In Defense of a Naturalized Epistemology," pp. 5-6.


\(^{32}\) Ibid.
on induction itself. One solution to the problem, associated with Peter Strawson, is that "adopting the inductive practices and principles that we do is constitutive of our concept of rationality."\textsuperscript{33} But, Kitcher asks, "why should we treat our current concept of rationality as privileged?"\textsuperscript{34} After all, rival societies might have rival conceptions. Anti-inductivists could proclaim their practices rational because they are constitutive of their conception of rationality. As Stephen Stich asks, "why should we care one whit whether the cognitive processes we use are sanctioned by [our] evaluative concepts?"\textsuperscript{35}

It will be useful to put the current points in the context of the discussion of Quinean naturalism with which we began. As Quine saw things, epistemologists set out to show that our beliefs about the world in fact amounted to knowledge. They attempted to do this by showing that these beliefs could be derived from our basic sensory data. And they failed. Our beliefs go beyond the data, despite the best efforts of some to argue to the contrary. Quine suggested that we simply give up the project of defending our beliefs, and instead simply study the processes that give rise to them. Kornblith, Kitcher, and Stich seem to see contemporary non-naturalists as responding to the failure of the Cartesian quest for certainty by simply ratifying current practices, by saying that it is a conceptual truth that reasoning in the way we ordinarily do is rational and yields justification. They see this as useless, an exercise in self-congratulation. When asked why what we do is any good, we reply that it is good by definition.

\textsuperscript{33} Ibid.
\textsuperscript{34} Ibid.
\textsuperscript{35} The Fragmentation of Reason, p. 92.
Identifying armchair epistemology with this sort of pointless ratification of the status quo is widespread. While I won’t argue that armchair epistemologists have done nothing to bring this charge on themselves, I think that the charge is seriously off target. I’ll turn now to an explanation of why.

To begin, we should notice that there is an extraordinarily wide gap between demanding Cartesian certainty in order to have knowledge and weakening the standards so far as to be merely performing “an exercise in self-congratulation” in which we endorse “whatever it is we pretheoretically believe.” One will search in vain in the epistemological literature for blanket endorsements of our actual beliefs and inferential practices. No armchair epistemologists say that “whatever it is we pretheoretically believe” amounts to knowledge. All defenders of armchair epistemology, no matter what their specific views or theories, agree that many everyday beliefs fall short of what’s needed for justification and knowledge. Even those who assume that any general form of skepticism is false agree that superstition, wishful thinking, and hasty generalization may be prevalent, and where they are, the resulting beliefs are not knowledge. Armchair epistemologists typically pick and choose among realistic and fanciful examples, identifying some as cases of knowledge and some as not. Many conclude that knowledge is less common than one would initially think. By reflecting carefully on what they take to be realistic examples, they attempt to identify what is good about possible ways of reasoning. By calling our attention to the reasoning that withstands scrutiny and reflection, they can contribute to an effort to help us improve. It is a mistake to characterize this as an exercise in self-congratulation.

One thing that may lead philosophers to make this mis-
taken criticism of armchair epistemology is a misunderstanding of the role examples play in it. Some armchair epistemologists begin by describing realistic cases that they take to be cases of, for example, perceptual knowledge. Kornblith and others may think that these philosophers are assuming that actual cases like these count as knowledge come what may. It may be that some armchair epistemologists do proceed in this way. They think that actual typical cases of, say, perceptual belief, count as knowledge no matter what else is true of them. This would amount to an intransigent defense of these common sense beliefs.

I believe, however, that this mischaracterizes the role that examples play, or should play, in armchair epistemology. I think that the assumption standardly made, or at least the one that should be made, is that if our perceptual systems are at least roughly like we take them to be and the world is at least roughly like the way we think it is, then many of our ordinary perceptual beliefs amount to knowledge. It’s consistent with this that our actual perceptual beliefs rarely or never amount to knowledge. So, armchair epistemologists, even when they use realistic examples as their starting point, are not proceeding in a way that guarantees that the resulting theories will imply that these are cases of knowledge or justification.

There is, then, no merit in the charge that armchair epistemology is based on mistaken assumptions about knowledge or in the contention that armchair epistemology is committed to a

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36 Thus, I think that armchair epistemologists who seem to assume that skepticism is false typically aren’t making (or shouldn’t make) that assumption. The assumption they are making is the conditional assumption just mentioned.
mindless ratification of common sense views of the world. So, these are not good reasons to think that there is anything defective about the methodology of armchair epistemology. Nevertheless, it could still be the case that a scientific study of knowledge would be preferable in some way. In the case of aluminum, even if our ordinary thoughts about aluminum were not seriously mistaken, it would still be absurd to try to understand what aluminum is by engaging in armchair analysis of our concept of aluminum rather than by engaging in scientific study of aluminum. So, why isn’t the same thing true of knowledge?

It’s difficult to see, however, exactly why we should think that knowledge is relevantly like aluminum. For one thing, what we seek in the case of aluminum is an understanding of its physical constitution. We want to know what it is made of, how it interacts with other materials and why, and what we can use it for. Our analysis of knowledge does not call for an account of its physical constitution. It’s doubtful that there is any such thing. We might also seek scientific analyses of physical processes, such as cell division. But knowledge isn’t a substance like aluminum or a process like cell division. So, analogies such as these don’t provide reasons to seek naturalistic analyses of knowledge.

More important, however, is the fact that there are conceptual puzzles about knowledge that many people find interesting. These puzzles lead to arguments for skepticism and questions about what epistemic justification requires. Study of these puzzles requires conceptual clarification. Part of Kornblith’s case for naturalized epistemology rests on the contention that our ordinary concept of knowledge is “of little interest.” I think that it is a good idea to be wary of philosophical argu-
ments based on claims about what is of "interest." Different people find different things interesting, but the conceptual questions about knowledge and justification have a long track record. There are no comparable puzzles about aluminum.

Similar comments apply to Stich's rhetorical question, "Why should we care about these concepts of justification and knowledge?" Well, they are our concepts. When we ask whether a particular belief is justified or whether there is knowledge in a particular case, we are using our concepts. If we want to be clear about our question and reasonable in our answer, it is useful to get as clear as we can about the concepts involved. That's what the conceptual analysis offered by armchair epistemologists is designed to provide.

Some topics and questions are amenable to armchair methods and some are not. It would be foolish to extend Kornblith's line of thinking to logical concepts such as validity or conjunction, to modal concepts such as necessity, or, I believe, to moral concepts such as obligation. Some concepts have a richer conceptual structure than others. The fact that knowledge requires true belief seems beyond dispute, and this shows that it has at least this much conceptual complexity. What else it requires continues to be in dispute. Whether anything of interest will emerge from further analysis remains to be seen. In any case, the alleged analogy to aluminum provides no basis for thinking that armchair epistemology should be replaced by an empirical study of knowledge.

There are, of course, fascinating empirical questions about how people form beliefs. Nothing said here is intended to suggest otherwise. But this fact, and the analogy to aluminum, provides neither the basis for rejecting armchair epistemology nor reason to think that a naturalistic study of knowledge will provide a better account of the nature of knowledge.

None of the reasons for rejecting armchair epistemology in favor of methodological naturalism that we’ve considered succeeds. To the extent that epistemology is involved in coming up with general analyses of knowledge and justification, the need for scientific input is yet to be made.

IV. Psychology and Epistemic Principles

In addition to analyzing knowledge and justification, armchair epistemologists often attempt to identify the principles of good reasoning. Often, these principles state sufficient conditions for a belief’s being justified. It will be useful to divide these principles into two broad categories. Epistemic principles of the first sort state that if certain beliefs are justified, then certain other beliefs are justified. For example, one much discussed principle of this sort says that if each of two beliefs is justified, then so is the conjunction of the two. A variant of a principle like this can be stated as a rule of permission or obligation: if you (justifiably) believe each of two propositions that you may (or should) believe their conjunction. Another proposed principle says that if a person is justified in believing one proposition, then the person is justified in believing all the logical consequences of that proposition. This could be put as a rule saying that you may (or should) believe the consequences of what you
(justifiably) believe. The principles of inductive reasoning, mentioned earlier, fall into this category as well. One such principle says, roughly, that if you are justified in believing that all the examined members of some group have a certain property, then you are justified in believing that the next member of that group will have that property. We can think of principles like these as *epistemic transfer principles*. They say epistemic justification transfers from one proposition or set of propositions to another.\(^{38}\)

Epistemic rules such as these can be used to generate interesting philosophical puzzles. Consider the conjunction rule. It, along with some other assumptions, leads to the lottery paradox.\(^{39}\) Suppose you own a ticket in a large lottery. You seem to be justified in believing that your ticket will not win. A similar belief about each other ticket also seems to be justified. By the conjunction rule (applied repeatedly), you are justified in believing a long conjunction, saying of each ticket that it will not win. But to believe that conjunction is to believe the manifest

\(^{38}\) One reason for thinking that empirical input is needed when formulating epistemic principles of the first kind has to do with human limitations. Some take the rules in question to state what one is *required* to believe if one has certain other justified beliefs. Given that one isn’t be required to believe what one can’t believe or, perhaps, what is extremely hard for one to believe, the rules must conform to human limitations. This sort of point is made by Goldman in “Epistemics: The Regulative Theory of Cognition,” p. 510 and p. 514 and by Stich in *The Fragmentation of Reason*, chapter 2. A quick response to this point is to take the relevant rules to state what one is permitted to believe rather than what one is obligated to believe. Another response is to modify the principles by adding to their antecedents the requirement that one is able to form the belief in question.

\(^{39}\) The puzzle was developed by Henry Kyburg. See *Probability and Logic of Rational Belief* (Middletown, CT, Wesleyan University Press, 1961).
falsehood that no ticket will win. The conjunction rule, combined with the other assumptions involved in the example, apparently leads to an absurd result. The rule, or one of the other assumptions, must be rejected. It is difficult to see how empirical results could be of any value whatsoever in helping us to figure out what to reject in this case. To the extent that epistemology is concerned with epistemic transfer principles like this, it is implausible to think that empirical input is helpful or necessary.

Epistemic principles of a second kind state sufficient conditions for justification that are not other justified beliefs. These principles identify the ultimate sources of justification for beliefs. Epistemic principles about sources of justification often emphasize the role sources such as perception, testimony, or memory play. A simple example of such a principle about perceptual evidence might be:

For any sensory quality P and any person S, if S is appeared to P-ishly, then S is justified in believing that there is something with property P present.

According to this principle, “being appeared to redly” (seeming to see something red) justifies one in believing that there is something red present. Similar principles about testimony, memory, or other potential sources of justification can be formulated. A crucial aspect of the common armchair epistemologist's view is that these principles about evidential support are

40 Probably the most influential armchair epistemologist who attempts to develop principles of the sort described here is Roderick Chisholm. See, for example, Theory of Knowledge (Englewood Cliffs, Prentice Hall, 1989), chapters 5 and 6.
necessary and *a priori*.

The closest thing to this sort of principle that a reliabilist or causal theorist is likely to formulate is a claim about which processes or mechanisms are reliable. Any such claim will depend for its support upon psychological results, even if we do have some general information about this available to us in our armchairs. There appears to be, then, a significant difference between armchair epistemologists who formulate these *a priori* principles and reliabilists who use empirical evidence to formulate contingent claims about reliable processes. As Goldman puts it, evidentialists are apt to claim, “that knowledge, justification, and rationality arise primarily from evidential relations between sentences or propositions, abstract subject matter that can be studied by logic and probability theory,” whereas reliabilists think that we learn about such matters through “the study of biological or psychological systems in the natural (physical) world.”41 So evidentialists seek *a priori* principles about quasi-logical relations among propositions where reliabilists seek contingent truths about reliable processes. It appears, then, when it comes to formulating specific principles of the sorts described here, methodological naturalism is correct given reliabilist theories but perhaps not given traditional theories that focus on evidential support.

It is surely true that many evidentialists have attempted to formulate epistemic principles without the aid of information from science. Whether this is a project with any chance of success depends in large part upon exactly what the epistemic principles they formulate are supposed to be like. It is surely true

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41 “Naturalistic Epistemology and Reliabilism,” p. 302.
that for most of us, when we are appeared to redly, we are usu-
ally justified in believing that there is something red before us.
But this is a contingent truth. The sensory experiences people
have are only contingently related to the external objects that
we (properly) take them to be evidence for. Had our eyes been
different, the sort of experience we actually get when in the
presence of something red might have been caused by things
that were not red. In that case, that sort of experience might
have been part of one's evidence for the presence of some dif-
ferent sort of thing. In fact, that sort of experience could have
had no interesting relationship to external objects at all. It
could instead have been, like some twitches and tingles, not evi-
dentially relevant to the existence of external objects of any sort.
This suggests that there are no \textit{a priori} evidential principles
linking specific kinds of perceptual experiences with the pres-
ence of objects of specific kinds.

One might instead propose a somewhat more general prin-
ciple about perceptual evidence, such as that if a kind of per-
ceptual experience is regularly caused by a certain kind of object,
then the occurrence of the experience in a person provides the
person with at least some reason to believe that an object of that
kind is present. But principles along these lines are dubious,
since any such regular causal connection could be entirely be-
yond the grasp of the people having the experiences. If it turns
out that sunspots cause experiences of a certain sort, say a par-
ticular kind of headache, and no one has the slightest inkling
that this is the case, having such a headache does not provide
evidence for the occurrence of sunspots.

Perhaps a true principle concerning perceptual evidence is
that if one has a perceptual experience of a certain sort, and one
has evidence that experiences of that sort are normally caused by objects of a certain sort, and one lacks evidence that one’s current experience is abnormal, then one is justified in believing that an object of the stated kind is present. Even if some such principle is true, it hardly counts as a special principle about perceptual evidence. It is equally true that if one has a twitch, a tingle, or telepathic experience of a certain sort, and one has evidence that experiences of that sort are normally caused by objects of a certain kind, and one lacks evidence that one’s current experience is abnormal, then one is justified in believing that an object of the specified kind is present. These principles are just instances of a very general principle about evidential support. There is no special truth about perception here.

Similar points apply to testimonial evidence. Armchair epistemologists might think that people are typically better justified in believing things that they read in newspapers such as the New York Times than they are in believing things they read in supermarket tabloids. If this point is elevated to the status of an epistemological principle, then they should hold that such principles are contingent and dependent upon empirical evidence about the accuracy and integrity of these newspapers. However, I doubt that many epistemologists would say that a principle about specific newspapers counts as a principle of epistemology. They seek something more general. But what? A possibility might be that one is justified in believing things, all else being equal, that come from reputable sources. If by “reputable sources” we mean sources that have a generally strong reputation, then the principle is not true. One might have reason to distrust a source that has a generally good reputation. "Reputable sources" might mean trustworthy sources, sources
one has reason to believe. But this is just another way of saying that if one is told something by a source one has reason to believe, then one has reason to believe what one was told. And this just seems to be a special case of the analysis of justification that holds that one is justified in believing what is supported by one’s evidence.

My own hypothesis is that there are no true special epistemetic principles about sources of evidence of the sort some armchair epistemologists have sought. Any proposed principle will turn out to be either false or else just a restricted version of a very general epistemic principle. An analogy to ethics might be instructive. Act utilitarians—those who hold that in any circumstance one ought to do that action among one’s alternatives that maximizes utility—will hold that the there are no true special moral principles about promise keeping, truth telling, or even taking lives. One ought to do those things when and only when they maximize utility. The only true general principles about these kinds of actions are simply special cases of the wholly general utilitarian rule. There are, however, useful rules of thumb, to the effect that certain sorts of actions typically do or don’t maximize utility. Such rules of thumb may be helpful guides to life.

I suspect that the epistemic case is similar. The overriding rule is that one is justified in believing what is supported by one’s evidence. This is a rough statement of what I believe is a correct analysis of justification.42 One is justified in accepting testimony or forming a perceptual belief when, and only when,

42 This analysis is developed and defended in Richard Feldman and Earl Conee, “Evidentialism,” Philosophical Studies 48 (1985): 15-34.
so doing is supported by one’s overall evidence. There may be useful rules of thumb about when that will be the case. There are some general things one can say about the notion of evidential support, but what can be said will not be the more specific principles about particular sources of evidence like those many armchair epistemologists have sought.\textsuperscript{43} If this view about epistemic principles is correct, then the traditional search for such principles is bound to fail. The only principles are very abstract general principles about evidential support.

Are things importantly different if one holds a reliabilist or causal theory? Suppose one comes up with a reliabilist theory along the lines of (R1). It is possible to formulate principles about perception or memory that are, in effect, instances of this. For example, one might hold that memory is reliable for beliefs of such and such a kind in such and such circumstances. It is surely correct to say that philosophers need help from psychologists in developing principles such as this. But, as I see it, saying this is something like saying that philosophers need help from plumbers in fixing their leaking faucets. Figuring out which processes are reliable in which circumstances is an entirely empirical matter. The psychologists, like the plumbers, don’t need any help from the epistemologists in this project. There’s not much for the epistemologists to do other than stand around and watch.

Thus, for both reliabilists and defenders of more traditional evidential theories, information of two sorts is needed to assess the epistemic status of beliefs resulting from perception,

\textsuperscript{43} I suspect that advocates of other general epistemic principles, such as Bayes’s theorem, are likely to agree that there aren’t any special epistemic principles about perception, testimony, or other sources of evidence.
memory, or testimony. We need to know what the general standards for such evaluations are. And we need empirical information about either the reliability of processes or the evidence people actually have about those sources. The latter is a purely empirical matter. Theorizing about the first topic is the province of armchair epistemology, and we haven’t seen good arguments for the role of psychology in identifying and clarifying these general standards. Empirical information is needed to determine if the standards are met in particular kinds of cases.

V. Evaluating Arguments for Skepticism

The role of natural science in evaluating arguments for skepticism can easily be determined, based the conclusions reached in previous sections of this paper and a brief account of what skeptical arguments are like. Arguments for skepticism almost always involve premises of two sorts. Premises of one sort say that knowledge has some necessary condition. Premises of the other sort say that people’s beliefs never, or rarely, satisfy that necessary condition, or perhaps that they can’t satisfy that condition. To the extent that an evaluation of the skeptical argument focuses on a premise of the first sort, armchair epistemologists will be in a position to carry out the task. A good analysis of knowledge will enable us to determine whether knowledge really does have the necessary condition the argument describes. To the extent that the evaluation focuses on a premise of the second sort, it will typically require empirical information, often information that will come from natural science. Of course, sometimes that empirical information will also be available to intelligent epistemologists in their armchairs,
since it may not depend on technical results from psychology.

VI. Conclusion

The resulting picture, then, is this: some projects some would call epistemological, such as the study of human knowledge and reasoning or the effort to help people to reason better undoubtedly do require empirical input. A more central philosophical project is the effort to construct general abstract theories about or analyses of knowledge and justification. In spite of arguments to the contrary, there's no good reason to think that psychological results will play any significant role in that project. The formulation of specific principles about perception, testimony, memory and other potential sources of knowledge and justification either amounts to specifying mere special cases of the abstract general principles or else is a purely empirical matter. Finally, whether responses to skepticism require input from science depends entirely upon the nature of the response. There is, then, a large part of traditional epistemology that remains independent of science.\textsuperscript{44}

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Richard Feldman is Professor of Philosophy at the University of Rochester, in Rochester, New York. He is the author of one book and numerous articles on epistemology and critical thinking. Several of his papers have been reprinted in recent anthologies on epistemology. He is currently working on a textbook in epistemology, as well as papers on the ethics of belief and the nature of rational argument.
知識論的自然主義進路

費特曼
(何志青譯)

摘要

最近知識論方面的討論中對知識論本身的性質產生重大的歧見。贊成「自然化知識論」者認爲知識論必須依賴認知科學的經驗成果。我則主張某些知識論的工作，例如致力於增進人類的理性思考，無疑地需要經驗科學的投入，但是自然主義者並未提供充分理由來證實經驗成果在核心的知識論工作中——亦即建構知識與證成的普遍抽象分析——扮演著舉足輕重的角色。經驗科學提出許多有關知覺、驗證、記憶等知識與證成來源之特定原則，但這些原則若不是對抽象普遍分析之個案做說明，便是單純地處理經驗的課題。最後，對懷疑論的回應是否需要科學之助，完全視該回應的本質而定。因此，傳統知識論中仍然有相當大的部份不仰賴科學。

關鍵詞：知識論、自然化知識論、自然主義、證成