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## WHAT IS “NATURALIZED EPISTEMOLOGY?”

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### 1. Epistemology As a Normative Inquiry

Descartes' epistemological inquiry in the *Meditations* begins with this question: What propositions are worthy of belief? In the *First Meditation* Descartes canvasses beliefs of various kinds he had formerly held as true and finds himself forced to conclude that he ought to reject them, that he ought not to accept them as true. We can view Cartesian epistemology as consisting of the following two projects: to identify the criteria by which we ought to regulate acceptance and rejection of beliefs, and to determine what we may be said to know according to those criteria. Descartes' epistemological agenda has been the agenda of Western epistemology to this day. The twin problems of identifying criteria of justified belief and coming to terms with the skeptical challenge to the possibility of knowledge have defined the central tasks of theory of knowledge since Descartes. This was as true of the empiricists, of Locke and Hume and Mill, as of those who more closely followed Descartes in the rationalist path.<sup>1</sup>

It is no wonder then that modern epistemology has been dominated by a single concept, that of *justification*, and two fundamental questions involving it: What conditions must a belief meet if we are justified in accepting it as true? and What beliefs are we in fact justified in accepting? Note that the first question does not ask for an “analysis” or “meaning” of the term “justified belief”. And it is generally assumed, even if not always explicitly stated, that not just any statement

of a necessary and sufficient condition for a belief to be justified will do. The implicit requirement has been that the stated conditions must constitute “criteria” of justified belief, and for this it is necessary that the conditions be stated *without the use of epistemic terms*. Thus, formulating conditions of justified belief in such terms as “adequate evidence”, “sufficient ground”, “good reason”, “beyond a reasonable doubt”, and so on, would be merely to issue a promissory note redeemable only when these epistemic terms are themselves explained in a way that accords with the requirement.<sup>2</sup>

This requirement, while it points in the right direction, does not go far enough. What is crucial is this: *the criteria of justified belief must be formulated on the basis of descriptive or naturalistic terms alone, without the use of any evaluative or normative ones, whether epistemic or of another kind.*<sup>3</sup> Thus, an analysis of justified belief that makes use of such terms as “intellectual requirement”<sup>4</sup> and “having a right to be sure”<sup>5</sup> would not satisfy this generalized condition; although such an analysis can be informative and enlightening about the inter-relationships of these normative concepts, it will not, on the present conception, count as a statement of *criteria* of justified belief, unless of course these terms are themselves provided with nonnormative criteria. What is problematic, therefore, about the use of epistemic terms in stating criteria of justified belief is not its possible circularity in the usual sense; rather it is the fact that these epistemic terms are themselves essentially normative. We shall later discuss the rationale of this strengthened requirement.

As many philosophers have observed,<sup>6</sup> the two questions we have set forth, one about the criteria of justified belief and the other about what we can be said to know according to those criteria, constrain each other. Although some philosophers have been willing to swallow skepticism just because what we regard as correct criteria of justified belief are seen to lead inexorably to the conclusion that none, or very few, of our beliefs are justified, the usual presumption is that our answer to the first question should leave our epistemic situation largely unchanged. That is to say, it is expected to turn out that according to the criteria of justified belief we come to accept, we know, or are justified in believing, pretty much what we reflectively think we know or are entitled to believe.

Whatever the exact history, it is evident that the concept of justification has come to take center stage in our reflections on the nature of knowledge. And apart from history, there is a simple reason for

our preoccupation with justification: it is the only specifically epistemic component in the classic tripartite conception of knowledge. Neither belief nor truth is a specifically epistemic notion: belief is a psychological concept and truth a semantical-metaphysical one. These concepts may have an implicit epistemological dimension, but if they do, it is likely to be through their involvement with essentially normative epistemic notions like justification, evidence, and rationality. Moreover, justification is what makes knowledge itself a normative concept. On surface at least, neither truth nor belief is normative or evaluative (I shall argue below, though, that belief does have an essential normative dimension). But justification manifestly is normative. If a belief is justified for us, then it is *permissible* and *reasonable*, from the epistemic point of view, for us to hold it, and it would be *epistemically irresponsible* to hold beliefs that contradict it. If we consider believing or accepting a proposition to be an “action” in an appropriate sense, belief justification would then be a special case of justification of action, which in its broadest terms is the central concern of normative ethics. Just as it is the business of normative ethics to delineate the conditions under which acts and decisions are justified from the moral point of view, so it is the business of epistemology to identify and analyze the conditions under which beliefs, and perhaps other propositional attitudes, are justified from the epistemological point of view. It probably is only an historical accident that we standardly speak of “normative ethics” but not of “normative epistemology”. Epistemology is a normative discipline as much as, and in the same sense as, normative ethics.

We can summarize our discussion thus far in the following points: that justification is a central concept of our epistemological tradition, that justification, as it is understood in this tradition, is a normative concept, and in consequence that epistemology itself is a normative inquiry whose principal aim is a systematic study of the conditions of justified belief. I take it that these points are uncontroversial, although of course there could be disagreement about the details—for example, about what it means to say a concept or theory is “normative” or “evaluative”.

## 2. The Foundationalist Strategy

In order to identify the target of the naturalistic critique—in par-

ticular, Quine's—it will be useful to take a brief look at the classic response to the epistemological program set forth by Descartes. Descartes' approach to the problem of justification is a familiar story, at least as the textbook tells it: it takes the form of what is now commonly called “foundationalism”. The foundationalist strategy is to divide the task of explaining justification into two stages: first, to identify a set of beliefs that are “directly” justified in that they are justified without deriving their justified status from that of any other belief, and then to explain how other beliefs may be “indirectly” or “inferentially” justified by standing in an appropriate relation to those already justified. Directly justified beliefs, or “basic beliefs”, are to constitute the foundation upon which the superstructure of “nonbasic” or “derived” beliefs is to rest. What beliefs then are directly justified, according to Descartes? Subtleties aside, he claimed that beliefs about our own present conscious states are among them. In what does their justification consist? What is it about these beliefs that make them directly justified? Somewhat simplistically again, Descartes' answer is that they are justified because they are *indubitable*, that the attentive and reflective mind *cannot but assent* to them. How are non-basic beliefs justified? By “deduction”—that is, by a series of inferential steps, or “intuitions”, each of which is indubitable. If, therefore, we take Cartesian indubitability as a psychological notion, Descartes' epistemological theory can be said to meet the desideratum of providing nonepistemic, naturalistic criteria of justified belief.

Descartes' foundationalist program was inherited, in its essential outlines, by the empiricists. In particular, his “mentalism”, that beliefs about one's own current mental state are epistemologically basic, went essentially unchallenged by the empiricists and positivists, until this century. Epistemologists have differed from one another chiefly in regard to two questions: first, what else belonged in our corpus of basic beliefs, and second, how the derivation of the non-basic part of our knowledge was to proceed. Even the Logical Positivists were, by and large, foundationalists, although some of them came to renounce Cartesian mentalism in favor of a “physicalistic basis”.<sup>7</sup> In fact, the Positivists were foundationalists twice over: for them “observation”, whether phenomenological or physical, served not only as the foundation of knowledge but as the foundation of all “cognitive meaning”—that is, as both an epistemological and a semantic foundation.

### 3. Quine's Arguments

It has become customary for epistemologists who profess allegiance to a "naturalistic" conception of knowledge to pay homage to Quine as the chief contemporary provenance of their inspiration—especially to his influential paper "Epistemology Naturalized".<sup>8</sup> Quine's principal argument in this paper against traditional epistemology is based on the claim that the Cartesian foundationalist program has failed—that the Cartesian "quest for certainty" is "a lost cause". While this claim about the hopelessness of the Cartesian "quest for certainty" is nothing new, using it to discredit the very conception of normative epistemology is new, something that any serious student of epistemology must contend with.

Quine divides the classic epistemological program into two parts: *conceptual reduction* whereby physical terms, including those of theoretical science, are reduced, via definition, to terms referring to phenomenal features of sensory experience, and *doctrinal reduction* whereby truths about the physical world are appropriately obtained from truths about sensory experience. The "appropriateness" just alluded to refers to the requirement that the favored epistemic status ("certainty" for classic epistemologists, according to Quine) of our basic beliefs be transferred, essentially undiminished, to derived beliefs, a necessary requirement if the derivational process is to yield knowledge from knowledge. What derivational methods have this property of preserving epistemic status? Perhaps there are none, given our proneness to err in framing derivations as in anything else, not to mention the possibility of lapses of attention and memory in following lengthy proofs. But logical deduction comes as close to being one as any; it can at least be relied on to transmit truth, if not epistemic status. It could perhaps be argued that no method can preserve certainty unless it preserves (or is known to preserve) truth; and if this is so, logical deduction is the only method worth considering. I do not know whether this was the attitude of most classic epistemologists; but Quine assumes that if deduction doesn't fill their bill, nothing will.

Quine sees the project of conceptual reduction as culminating in Carnap's *Der Logische Aufbau der Welt*. As Quine sees it, Carnap "came nearest to executing" the conceptual half of the classic epistemological project. But coming close is not good enough. Because of the holistic manner in which empirical meaning is

generated by experience, no reduction of the sort Carnap and others so eagerly sought could in principle be completed. For definitional reduction requires point-to-point meaning relations<sup>9</sup> between physical terms and phenomenal terms, something that Quine's holism tells us cannot be had. The second half of the program, doctrinal reduction, is in no better shape; in fact, it was the one to stumble first, for, according to Quine, its impossibility was decisively demonstrated long before the *Aufbau*, by Hume in his celebrated discussion of induction. The "Humean predicament" shows that theory cannot be logically deduced from observation; there simply is no way of deriving theory from observation that will transmit the latter's epistemic status intact to the former.

I don't think anyone wants to disagree with Quine in these claims. It is not possible to "validate" science on the basis of sensory experience, if "validation" means justification through logical deduction. Quine of course does not deny that our theories depend on observation for evidential support; he has said that sensory evidence is the only evidence there is. To be sure, Quine's argument against the possibility of conceptual reduction has a new twist: the application of his "holism". But his conclusion is no surprise; "translational phenomenalism" has been moribund for many years.<sup>10</sup> And, as Quine himself notes, his argument against the doctrinal reduction, the "quest for certainty", is only a restatement of Hume's "skeptical" conclusions concerning induction: induction after all is not deduction. Most of us are inclined, I think, to view the situation Quine describes with no great alarm, and I rather doubt that these conclusions of Quine's came as news to most epistemologists when "Epistemology Naturalized" was first published. We are tempted to respond: of course we can't define physical concepts in terms of sense-data; of course observation "underdetermines" theory. That is why observation is observation and not theory.

So it is agreed on all hands that the classical epistemological project, conceived as one of deductively validating physical knowledge from indubitable sensory data, cannot succeed. But what is the moral of this failure? What should be its philosophical lesson to us? Having noted the failure of the Cartesian program, Quine goes on:<sup>11</sup>

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? Such a surrender of the epistemological burden to psychology is a move that was disallowed in earlier times as circular reasoning. If the epistemologist's goal is validation of the grounds of empirical science, he defeats his purpose by using psychology or other empirical science in the validation. However, such scruples against circularity have little point once we have stopped dreaming of deducing science from observation. If we are out simply to understand the link between observation and science, we are well advised to use any available information, including that provided by the very science whose link with observation we are seeking to understand.

And Quine has the following to say about the failure of Carnap's reductive program in the *Aufbau*:<sup>12</sup>

To relax the demand for definition, and settle for a kind of reduction that does not eliminate, is to renounce the last remaining advantage that we supposed rational reconstruction to have over straight psychology; namely, the advantage of translational reduction. If all we hope for is a reconstruction that links science to experience in explicit ways short of translation, then it would seem more sensible to settle for psychology. Better to discover how science is in fact developed and learned than to fabricate a fictitious structure to a similar effect.

If a task is entirely hopeless, if we know it cannot be executed, no doubt it is rational to abandon it; we would be better off doing something else that has some hope of success. We can agree with Quine that the "validation"—that is, logical deduction—of science on the basis of observation cannot be had; so it is rational to abandon this particular epistemological program, if indeed it ever was a program that anyone seriously undertook. But Quine's recommendations go further. In particular, there are two aspects of Quine's proposals that are of special interest to us: first, he is not only advising us to quit the program of "validating science", but urging us to take up another specific project, an empirical psychological study of our cognitive processes; second, he is also claiming that this new program replaces the old, that both programs are part of something ap-



appropriately called “epistemology”. Naturalized epistemology is to be a kind of epistemology after all, a “successor subject”<sup>13</sup> to classical epistemology.

How should we react to Quine’s urgings? What should be our response? The Cartesian project of validating science starting from the indubitable foundation of first-person psychological reports (perhaps with the help of certain indubitable first principles) is not the whole of classical epistemology—or so it would seem at first blush. In our characterization of classical epistemology, the Cartesian program was seen as one possible response to the problem of epistemic justification, the two-part project of identifying the criteria of epistemic justification and determining what beliefs are in fact justified according to those criteria. In urging “naturalized epistemology” on us, Quine is not suggesting that we give up the Cartesian foundationalist solution and explore others within the same framework<sup>14</sup>—perhaps, to adopt some sort of “coherentist” strategy, or to require of our basic beliefs only some degree of “initial credibility” rather than Cartesian certainty, or to permit some sort of probabilistic derivation in addition to deductive derivation of non-basic knowledge, or to consider the use of special rules of evidence, like Chisholm’s “principles of evidence”,<sup>15</sup> or to give up the search for a derivational process that transmits undiminished certainty in favor of one that can transmit diminished but still useful degrees of justification. Quine’s proposal is more radical than that. He is asking us to set aside the entire framework of justification-centered epistemology. That is what is new in Quine’s proposals. Quine is asking us to put in its place a purely descriptive, causal-nomological science of human cognition.<sup>16</sup>

How should we characterize in general terms the difference between traditional epistemological programs, such as foundationalism and coherence theory, on the one hand and Quine’s program of naturalized epistemology on the other? Quine’s stress is on the *factual* and *descriptive* character of his program; he says, “Why not see how [the construction of theory from observation] *actually proceeds*? Why not settle for psychology?”<sup>17</sup> again, “Better to *discover how science is in fact developed and learned than ...*”<sup>18</sup> We are given to understand that in contrast traditional epistemology is not a descriptive, factual inquiry. Rather, it is an attempt at a “validation” or “rational reconstruction” of science. Validation, according to Quine, proceeds via deduction, and rational reconstruction via definition.

However, their *point* is justificatory—that is, to rationalize our sundry knowledge claims. So Quine is asking us to set aside what is “rational” in rational reconstruction.

Thus, it is normativity that Quine is asking us to repudiate. Although Quine does not explicitly characterize traditional epistemology as “normative” or “prescriptive”, his meaning is unmistakable. Epistemology is to be “a chapter of psychology”, a law-based predictive-explanatory theory, like any other theory within empirical science; its principal job is to see how human cognizers develop theories (their “picture of the world”) from observation (“the stimulation of their sensory receptors”). Epistemology is to go out of the business of justification. We earlier characterized traditional epistemology as essentially normative; we see why Quine wants us to reject it. Quine is urging us to replace a normative theory of cognition with a descriptive science.

#### 4. Losing Knowledge from Epistemology

If justification drops out of epistemology, knowledge itself drops out of epistemology. For our concept of knowledge is inseparably tied to that of justification. As earlier noted, knowledge itself is a normative notion. Quine’s nonnormative, naturalized epistemology has no room for our concept of knowledge. It is not surprising that, in describing naturalized epistemology, Quine seldom talks about knowledge; instead, he talks about “science” and “theories” and “representations”. Quine would have us investigate how sensory stimulation “leads” to “theories” and “representation” of the world. I take it that within the traditional scheme these “theories” and “representations” correspond to beliefs, or systems of beliefs; thus, what Quine would have us do is to investigate how sensory stimulation leads to the formation of beliefs about the world.

But in what sense of “lead”? I take it that Quine has in mind a causal or nomological sense. He is urging us to develop a theory, an empirical theory, that uncovers lawful regularities governing the processes through which organisms come to develop beliefs about their environment as a causal result of having their sensory receptors stimulated in certain ways. Quine says:<sup>19</sup>

[Naturalized epistemology] studies a natural phenomenon, viz., a physical human subject. This human subject is

accorded 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 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.

The relation Quine speaks of between “meager input” and “torrential output” is a causal relation; at least it is qua causal relation that the naturalized epistemologist investigates it. It is none of the naturalized epistemologist's business to assess whether, and to what degree, the input “justifies” the output, how a given irradiation of the subject's retinas makes it “reasonable” or “rational” for the subject to emit certain representational output. His interest is strictly causal and nomological: he wants us to look for patterns of lawlike dependencies characterizing the input-output relations for this particular organism and others of a like physical structure.

If this is right, it makes Quine's attempt to relate his naturalized epistemology to traditional epistemology look at best lame. For in what sense is the study of causal relationships between physical stimulation of sensory receptors and the resulting cognitive output a way of “seeing how evidence relates to theory” in an epistemologically relevant sense? The causal relation between sensory input and cognitive output is a relation between “evidence” and “theory”; however, it is not an *evidential relation*. This can be seen from the following consideration: the nomological patterns that Quine urges us to look for are certain to vary from species to species, depending on the particular way each biological (and possibly non-biological) species processes information, but the evidential relation in its proper normative sense must abstract from such factors and concern itself only with the degree to which evidence supports hypothesis.

In any event, the concept of evidence is inseparable from that of justification. When we talk of “evidence” in an epistemological sense we are talking about justification: one thing is “evidence” for another just in case the first tends to enhance the reasonableness or justifica-

tion of the second. And such evidential relations hold in part because of the "contents" of the items involved, not merely because of the causal or nomological connections between them. A strictly nonnormative concept of evidence is not our concept of evidence; it is something that we do not understand.<sup>20</sup>

None of us, I think, would want to quarrel with Quine about the interest or importance of the psychological study of how our sensory input causes our epistemic output. This is only to say that the study of human (or other kinds of) cognition is of interest. That isn't our difficulty; our difficulty is whether, and in what sense, pursuing Quine's "epistemology" is a way of doing epistemology—that is, a way of studying "how evidence relates to theory". Perhaps, Quine's recommendation that we discard justification-centered epistemology is worth pondering; and his exhortation to take up the study of psychology perhaps deserves to be heeded also. What is mysterious is why this recommendation has to be coupled with the rejection of normative epistemology (if normative epistemology is not a possible inquiry, why shouldn't the would-be epistemologist turn to, say, hydrodynamics or ornithology rather than psychology?). But of course Quine is saying more; he is saying that an understandable, if misguided, motivation (that is, seeing "how evidence relates to theory") does underlie our proclivities for indulgence in normative epistemology, but that we would be better served by a scientific study of human cognition than normative epistemology.

But it is difficult to see how an "epistemology" that has been purged of normativity, one that lacks an appropriate normative concept of justification or evidence, can have anything to do with the concerns of traditional epistemology. And unless naturalized epistemology and classical epistemology share some of their central concerns, it's difficult to see how one could *replace* the other, or be a way (a better way) of doing the other.<sup>21</sup> To be sure, they both investigate "how evidence relates to theory". But putting the matter this way can be misleading, and has perhaps misled Quine: the two disciplines do not investigate the same relation. As lately noted, normative epistemology is concerned with the evidential relation properly so-called—that is, the relation of justification—and Quine's naturalized epistemology is meant to study the causal-nomological relation. For epistemology to go out of the business of justification is for it to go out of business.

## 5. Belief Attribution and Rationality

Perhaps we have said enough to persuade ourselves that Quine's naturalized epistemology, while it may be a legitimate scientific inquiry, is not a kind of epistemology, and, therefore, that the question whether it is a better kind of epistemology cannot arise. In reply, however, it might be said that there was a sense in which Quine's epistemology and traditional epistemology could be viewed as sharing a common subject matter, namely this: they both concern beliefs or "representations". The only difference is that the former investigates their causal histories and connections whereas the latter is concerned with their evidential or justificatory properties and relations. This difference, if Quine is right, leads to another (so continues the reply): the former is a feasible inquiry, the latter is not.

I now want to take my argument a step further: I shall argue that the concept of belief is itself an essentially normative one, and in consequence that if normativity is wholly excluded from naturalized epistemology it cannot even be thought of as being about beliefs. That is, if naturalized epistemology is to be a science of beliefs properly so called, it must presuppose a normative concept of belief.

Briefly, the argument is this. In order to implement Quine's program of naturalized epistemology, we shall need to identify, and individuate, the input and output of cognizers. The input, for Quine, consists of physical events ("the stimulation of sensory receptors") and the output is said to be a "theory" or "picture of the world"—that is, a set of "representations" of the cognizer's environment. Let us focus on the output. In order to study the sensory input-cognitive output relations for the given cognizer, therefore, we must find out what "representations" he has formed as a result of the particular stimulations that have been applied to his sensory transducers. Setting aside the jargon, what we need to be able to do is to attribute *beliefs*, and other contentful intentional states, to the cognizer. But belief attribution ultimately requires a "radical interpretation" of the cognizer, of his speech and intentional states; that is, we must construct an "interpretive theory" that simultaneously assigns meanings to his utterances and attributes to him beliefs and other propositional attitudes.<sup>22</sup>

Even a cursory consideration indicates that such an interpretation cannot begin—we cannot get a foothold in our subject's realm of meanings and intentional states—unless we assume his total system

of beliefs and other propositional attitudes to be largely and essentially rational and coherent. As Davidson has emphasized, a given belief has the content it has in part because of its location in a network of other beliefs and propositional attitudes; and what at bottom grounds this network is the evidential relation, a relation that regulates what is reasonable to believe given other beliefs one holds. That is, unless our cognizer is a "rational being", a being whose cognitive "output" is regulated and constrained by norms of rationality—typically, these norms holistically constrain his propositional attitudes in virtue of their contents—we cannot intelligibly interpret his "output" as consisting of beliefs. Conversely, if we are unable to interpret our subject's meanings and propositional attitudes in a way that satisfies a minimal standard of rationality, there is little reason to regard him as a "cognizer", a being that forms representations and constructs theories. This means that there is a sense of "rational" in which the expression "rational belief" is redundant; every belief must be rational in certain minimal ways. It is not important for the purposes of the present argument what these minimal standards of rationality are; the only point that matters is that unless the output of our cognizer is subject to evaluation in accordance with norms of rationality, that output cannot be considered as consisting of beliefs and hence cannot be the object of an epistemological inquiry, whether plain or naturalized.

We can separate the core of these considerations from controversial issues involving the so-called "principle of charity", minimal rationality, and other matters in the theory of radical interpretation. What is crucial is this: for the interpretation and attribution of beliefs to be possible, not only must we assume the overall rationality of cognizers, but also we must continually evaluate and re-evaluate the putative beliefs of a cognizer in their evidential relationship to one another and other propositional attitudes. It is not merely that belief attribution requires the umbrella assumption about the overall rationality of cognizers. Rather, the point is that *belief attribution requires belief evaluation*, in accordance with normative standards of evidence and justification. If this is correct, rationality in its broad and fundamental sense is not an optional property of beliefs, a virtue that some beliefs may enjoy and others lack; it is a precondition of the attribution and individuation of belief—that is, a property without which the concept of belief would be unintelligible and pointless.

Two objections might be raised to counter these considerations. First, one might argue that at best they show only that the normativity of belief is an epistemological assumption—that we need to assume the rationality and coherence of belief systems when we are trying to *find out* what beliefs to attribute to a cognizer. It does not follow from this epistemological point, the objection continues, that the concept of belief is itself normative.<sup>23</sup> In replying to this objection, we can by-pass the entire issue of whether the rationality assumption concerns only the epistemology of belief attribution. Even if this premise (which I think is incorrect) is granted, the point has already been made. For it is an essential part of the business of naturalized epistemology, as a theory of how beliefs are formed as a result of sensory stimulation, to *find out* what particular beliefs the given cognizers have formed. But this is precisely what cannot be done, if our considerations show anything at all, unless the would-be naturalized epistemologist continually evaluates the putative beliefs of his subjects in regard to their rationality and coherence, subject to the overall constraint of the assumption that the cognizers are largely rational. The naturalized epistemologist cannot dispense with normative concepts or disengage himself from valuational activities.

Second, it might be thought that we could simply avoid these considerations stemming from belief attribution by refusing to think of cognitive output as consisting of “beliefs”, namely as states having propositional contents. The “representations” Quine speaks of should be taken as appropriate neural states, and this means that all we need is to be able to discern neural states of organisms. This requires only neurophysiology and the like, not the normative theory of rational belief. My reply takes the form of a dilemma: either the “appropriate” neural states are identified by seeing how they correlate with beliefs,<sup>24</sup> in which case we still need to contend with the problem of radical interpretation, or beliefs are entirely by-passed. In the latter case, belief, along with justification, drops out of Quinean epistemology, and it is unclear in what sense we are left with an inquiry that has anything to do with knowledge.<sup>25</sup>

## 6. The “Psychologistic” Approach to Epistemology

Many philosophers now working in theory of knowledge have stressed the importance of systematic psychology to philosophical

epistemology. Reasons proffered for this are various, and so are the conceptions of the proper relationship between psychology and epistemology.<sup>26</sup> But they are virtually unanimous in their rejection of what they take to be the epistemological tradition of Descartes and its modern embodiments in philosophers like Russell, C. I. Lewis, Roderick Chisholm, and A. J. Ayer; and they are united in their endorsement the naturalistic approach of Quine we have been considering. Traditional epistemology is often condemned as "aprioristic", and as having lost sight of human knowledge as a product of natural causal processes and its function in the survival of the organism and the species. Sometimes, the adherents of the traditional approach are taken to task for their implicit antiscientific bias or indifference to the new developments in psychology and related disciplines. Their own approach in contrast is hailed as "naturalistic" and "scientific", better attuned to significant advances in the relevant scientific fields such as "cognitive science" and "neuroscience", promising philosophical returns far richer than what the aprioristic method of traditional epistemology has been able to deliver. We shall here briefly consider how this new naturalism in epistemology is to be understood in relation to the classic epistemological program and Quine's naturalized epistemology.

Let us see how one articulate proponent of the new approach explains the distinctiveness of his position vis-à-vis that of the traditional epistemologists. According to Philip Kitcher, the approach he rejects is characterized by an "apsychologistic" attitude that takes the difference between knowledge and true belief—that is, justification—to consist in "ways which are independent of the causal antecedents of a subject's states".<sup>27</sup> Kitcher writes:<sup>28</sup>

...we can present the heart of [the apsychologistic approach] by considering the way in which it would tackle the question of whether a person's true belief that *p* counts as knowledge that *p*. The idea would be to disregard the psychological life of the subject, looking just at the various propositions she believes. If *p* is 'connected in the right way' to other propositions which are believed, then we count the subject as knowing that *p*. Of course, apsychologistic epistemology will have to supply a criterion for propositions to be 'connected in the right way' ... but proponents of this view of knowledge will emphasize that the criterion is to be



given in *logical* terms. We are concerned with logical relations among propositions, not with psychological relations among mental states.

On the other hand, the psychologistic approach considers the crucial difference between knowledge and true belief—that is, epistemic justification—to turn on “the factors which produced the belief”, focusing on “processes which produce belief, processes which will always contain, at their latter end, psychological events”.<sup>29</sup>

It is not entirely clear from this characterization whether a psychologistic theory of justification is to be *prohibited* from making *any* reference to logical relations among belief contents (it is difficult to believe how a theory of justification respecting such a blanket prohibition could succeed); nor is it clear whether, conversely, an apsychologistic theory will be permitted to refer at all to beliefs qua psychological states, or exactly what it is for a theory to do so. But such points of detail are unimportant here; it is clear enough, for example, that Goldman’s proposal to explicate justified belief as belief generated by a reliable belief-forming process<sup>30</sup> nicely fits Kitcher’s characterization of the psychologistic approach. This account, one form of the so-called “reliability theory” of justification, probably was what Kitcher had in mind when he was formulating his general characterization of epistemological naturalism. However, another influential form of the reliability theory does not qualify under Kitcher’s characterization. This is Armstrong’s proposal to explain the difference between knowledge and true belief, at least for non-inferential knowledge, in terms of “a *law-like connection* between the state of affairs [of a subject’s believing that *p*] and the state of affairs that makes ‘*p*’ true such that, given the state of affairs [of the subject’s believing that *p*], it must be the case that *p*.”<sup>31</sup> There is here no reference to the causal *antecedents* of beliefs, something that Kitcher requires of apsychologistic theories.

Perhaps, Kitcher’s preliminary characterization needs to be broadened and sharpened. However, a salient characteristic of the naturalistic approach has already emerged, which we can put as follows: justification is to be characterized in terms of *causal* or *nomological* connections involving beliefs as *psychological states* or *processes*, and not in terms of the *logical* properties or relations pertaining to the *contents* of these beliefs.<sup>32</sup>

If we understand current epistemological naturalism in this way,

how closely is it related to Quine's conception of naturalized epistemology? The answer, I think, is obvious: not very closely at all. In fact, it seems a good deal closer to the Cartesian tradition than to Quine. For, as we saw, the difference that matters between Quine's epistemological program and the traditional program is the former's total renouncement of the latter's normativity, its rejection of epistemology as a normative inquiry. The talk of "replacing" epistemology with psychology is irrelevant and at best misleading, though it could give us a momentary relief from a sense of deprivation. When one abandons justification and other valuational concepts, one abandons the entire framework of normative epistemology. What remains is a descriptive empirical theory of human cognition which, if Quine has his way, will be entirely devoid of the notion of justification or any other evaluative concept.

As I take it, this is not what most advocates of epistemological naturalism are aiming at. By and large they are not Quinean eliminativists in regard to justification, and justification in its full-fledged normative sense continues to play a central role in their epistemological reflections. Where they differ from their nonnaturalist adversaries is the specific way in which criteria of justification are to be formulated. Naturalists and nonnaturalists ("apsychologists") can agree that these criteria must be stated in descriptive terms—that is, without the use of epistemic or any other kind of normative terms. According to Kitcher, an apychologistic theory of justification would state them primarily in terms of *logical* properties and relations holding for propositional contents of beliefs, whereas the psychologistic approach advocates the exclusive use of *causal* properties and relations holding for beliefs as events or states. Many traditional epistemologists may prefer criteria that confer upon a cognizer a position of special privilege and responsibility with regard to the epistemic status of his beliefs, whereas most self-avowed naturalists prefer "objective" or "externalist" criteria with no such special privileges for the cognizer. But these differences are among those that arise within the familiar normative framework, and are consistent with the exclusion of normative terms in the statement of the criteria of justification.

Normative ethics can serve as a useful model here. To claim that basic ethical terms, like "good" and "right", are *definable* on the basis of descriptive or naturalistic terms is one thing; to insist that it is the business of normative ethics to provide *conditions* or *criteria* for

“good” and “right” in descriptive or naturalistic terms is another. One may properly reject the former, the so-called “ethical naturalism”, as many moral philosophers have done, and hold the latter; there is no obvious inconsistency here. G. E. Moore is a philosopher who did just that. As is well known, he was a powerful critic of ethical naturalism, holding that goodness is a “simple” and “nonnatural” property. At the same time, he held that a thing’s being good “follows” from its possessing certain naturalistic properties. He wrote:<sup>33</sup>

I should never have thought of suggesting that goodness was ‘non-natural’, unless I had supposed that it was ‘derivative’ in the sense that, whenever a thing is good (in the sense in question) its goodness ...‘depends on the presence of certain non-ethical characteristics’ possessed by the thing in question: I have always supposed that it did so ‘depend’, in the sense that, if a thing is good (in my sense), then that it is so *follows* from the fact that it possesses certain natural intrinsic properties ...

It makes sense to think of these “natural intrinsic properties” from which a thing’s being good is thought to follow as constituting naturalistic criteria of goodness, or at least pointing to the existence of such criteria. One can reject ethical naturalism, the doctrine that ethical concepts are definitionally eliminable in favor of naturalistic terms, and at the same time hold that ethical properties, or the ascription of ethical terms, must be governed by naturalistic criteria. It is clear, then, that we are here using “naturalism” ambiguously in “epistemological naturalism” and “ethical naturalism”. In our present usage, epistemological naturalism does not include (nor does it necessarily exclude) the claim that epistemic terms are definitionally reducible to naturalistic terms. (Quine’s naturalism is eliminative, though it is not a definitional eliminativism.)

If, therefore, we locate the split between Quine and traditional epistemology at the descriptive vs. normative divide, then currently influential naturalism in epistemology is not likely to fall on Quine’s side. On this descriptive vs. normative issue, one can side with Quine in one of two ways: first, one rejects, with Quine, the entire justification-based epistemological program; or second, like ethical naturalists but unlike Quine, one believes that epistemic concepts are naturalistically definable. I doubt that very many epistemological

naturalists will embrace either of these alternatives.<sup>34</sup>

## 7. Epistemic Supervenience—Or Why Normative Epistemology Is Possible

But why should we think that there *must be* naturalistic criteria of justified belief and other terms of epistemic appraisal? If we take the discovery and systematization of such criteria to be the central task of normative epistemology, is there any reason to think that this task can be fruitfully pursued, that normative epistemology is a possible field of inquiry? Quine’s point is that it is not. We have already noted the limitation of Quine’s negative arguments in “Epistemology Naturalized”, but is there a positive reason for thinking that normative epistemology is a viable program? One could consider a similar question about the possibility of normative ethics.

I think there is a short and plausible initial answer, although a detailed defense of it would involve complex general issues about norms and values. The short answer is this: we believe in the supervenience of epistemic properties on naturalistic ones, and more generally, in the supervenience of all valuational and normative properties on naturalistic conditions. This comes out in various ways. We think, with R.M. Hare,<sup>35</sup> that if two persons or acts coincide in all descriptive or naturalistic details, they cannot differ in respect of being good or right, or any other valuational aspects. We also think that if something is “good”—a “good car”, “good drop shot”, “good argument”—then that must be so “in virtue of” its being a “certain way”, that is, its having certain “factual properties”. Being a good car, say, cannot be a brute and ultimate fact: a car is good *because* it has a certain contextually indicated set of properties having to do with performance, reliability, comfort, styling, economy, etc. The same goes for justified belief: if a belief is justified, that must be so *because* it has certain factual, nonepistemic properties, such as perhaps that it is “indubitable”, that it is seen to be entailed by another belief that is independently justified, that it is appropriately caused by perceptual experience, or whatever. That it is a justified belief cannot be a brute fundamental fact unrelated to the kind of belief it is. There must be a *reason* for it, and this reason must be grounded in the factual descriptive properties of that particular belief. Something like this, I think, is what we believe.

Two important themes underlie these convictions: first, values, though perhaps not reducible to facts, must be “consistent” with them in that objects that are indiscernible in regard to fact must be indiscernible in regard to value; second, there must be nonvaluational “reasons” or “grounds” for the attribution of values, and these “reasons” or “grounds” must be *generalizable*—that is, they are covered by *rules* or *norms*. These two ideas correspond to “weak supervenience” and “strong supervenience” that I have discussed elsewhere.<sup>36</sup> Belief in the supervenience of value upon fact, arguably, is fundamental to the very concepts of value and valuation.<sup>37</sup> Any valuational concept, to be significant, must be governed by a set of criteria, and these criteria must ultimately rest on factual characteristics and relationships of objects and events being evaluated. There is something deeply incoherent about the idea of an infinitely descending series of valuational concepts, each depending on the one below it as its criterion of application.<sup>38</sup>

It seems to me, therefore, that epistemological supervenience is what underlies our belief in the possibility of normative epistemology, and that we do not need new inspirations from the sciences to acknowledge the existence of naturalistic criteria for epistemic and other valuational concepts. The case of normative ethics is entirely parallel: belief in the possibility of normative ethics is rooted in the belief that moral properties and relations are supervenient upon non-moral ones. Unless we are prepared to disown normative ethics as a viable philosophical inquiry, we had better recognize normative epistemology as one, too.<sup>39</sup> We should note, too, that epistemology is likely to parallel normative ethics in regard to the degree to which scientific results are relevant or useful to its development.<sup>40</sup> Saying this of course leaves large room for disagreement concerning how relevant and useful, if at all, empirical psychology of human motivation and action can be to the development and confirmation of normative ethical theories.<sup>41</sup> In any event, once the normativity of epistemology is clearly taken note of, it is no surprise that epistemology and normative ethics share the same metaphilosophical fate. Naturalized epistemology makes no more, and no less, sense than naturalized normative ethics.<sup>42</sup>

## Notes

1. In making these remarks I am only repeating the familiar textbook

history of philosophy; however, what *our* textbooks say about the history of a philosophical concept has much to do with *our* understanding of that concept.

2. Alvin Goldman explicitly states this requirement as a desideratum of his own analysis of justified belief in "What is Justified Belief?", in George S. Pappas (ed.), *Justification and Knowledge* (Dordrecht: Reidel, 1979), p. 1. Roderick M. Chisholm's definition of "being evident" in his *Theory of Knowledge*, 2nd ed. (Englewood Cliffs, N.J.: Prentice-Hall, 1977) does not satisfy this requirement as it rests ultimately on an unanalyzed epistemic concept of one belief being *more reasonable than* another. What does the real "criteriological" work for Chisholm is his "principles of evidence". See especially (A) on p. 73 of *Theory of Knowledge*, which can usefully be regarded as an attempt to provide nonnormative, descriptive conditions for certain types of justified beliefs.
3. The basic idea of this stronger requirement seems implicit in Roderick Firth's notion of "warrant-increasing property" in his "Coherence, Certainty, and Epistemic Priority", *Journal of Philosophy* 61 (1964): 545-57. It seems that William P. Alston has something similar in mind when he says, "... like any evaluative property, epistemic justification is a supervenient property, the application of which is based on more fundamental properties" (at this point Alston refers to Firth's paper cited above), in "Two Types of Foundationalism", *Journal of Philosophy* 73 (1976): 165-85 (the quoted remark occurs on p. 170). Although Alston doesn't further explain what he means by "more fundamental properties", the context makes it plausible to suppose that he has in mind nonnormative, descriptive properties. See Section 7 below for further discussion.
4. See Chisholm, *ibid.*, p. 14. Here Chisholm refers to a "person's responsibility or duty *qua* intellectual being".
5. This term was used by A.J. Ayer to characterize the difference between lucky guessing and knowing; see *The Problem of Knowledge* (New York & London: Penguin Books, 1956), p. 33.
6. Notably by Chisholm in *Theory of Knowledge*, 1st ed., ch. 4.
7. See Rudolf Carnap, "Testability and Meaning", *Philosophy of Science* 3 (1936), and 4 (1937). We should also note the presence of a strong coherentist streak among some positivists; see, e.g., Carl G. Hempel, "On the Logical Positivists' Theory of Truth", *Analysis* 2 (1935): 49-59, and "Some Remarks on 'Facts' and Propositions", *Analysis* 2 (1935): 93-96.
8. In W.V. Quine, *Ontological Relativity and Other Essays* (New York: Columbia University Press, 1969). Also see his *Word and Object* (Cambridge: MIT Press, 1960); *The Roots of Reference* (La Salle, Ill.: Open Court, 1973); (with Joseph Ullian) *The Web of Belief* (New York: Random House, 1970); and especially "The Nature of Natural Knowledge" in Samuel Guttenplan (ed.), *Mind and Language* (Oxford: Clarendon Press, 1975). See Frederick F. Schmitt's excellent bibliography on naturalistic epistemology in Hilary Kornblith (ed.), *Naturalizing Epistemology* (Cambridge: MIT/Bradford, 1985).
9. Or confirmational relations, given the Positivists' verificationist theory of meaning.

10. I know of no serious defense of it since Ayer's *The Foundations of Empirical Knowledge* (London: Macmillan, 1940).
11. "Epistemology Naturalized", pp. 75-76.
12. *Ibid.*, p. 78.
13. To use an expression of Richard Rorty's in *Philosophy and the Mirror of Nature* (Princeton: Princeton University Press, 1979), p. 11.
14. Elliott Sober makes a similar point: "And on the question of whether the failure of a foundationalist programme shows that questions of justification cannot be answered, it is worth noting that Quine's advice 'Since Carnap's foundationalism failed, why not settle for psychology' carries weight only to the degree that Carnapian epistemology exhausts the possibilities of epistemology", in "Psychologism", *Journal of Theory of Social Behaviour* 8 (1978): 165-191.
15. See Chisholm, *Theory of Knowledge*, 2nd ed., ch. 4.
16. "If we are seeking only the causal mechanism of our knowledge of the external world, and not a justification of that knowledge in terms prior to science ...", Quine, "Grades of Theoreticity", in L. Foster and J.W. Swanson (eds.), *Experience and Theory* (Amherst: University of Massachusetts Press, 1970), p. 2.
17. *Ibid.*, p. 75. Emphasis added.
18. *Ibid.*, p. 78. Emphasis added.
19. *Ibid.*, p. 83. Emphasis added.
20. But aren't there those who advocate a "causal theory" of evidence or justification? I want to make two brief points about this. First, the nomological or causal input/output relations are not in themselves evidential relations, whether these latter are understood causally or otherwise. Second, a causal theory of evidence attempts to state *criteria* for "e is evidence for h" in causal terms; even if this is successful, it does not necessarily give us a causal "definition" or "reduction" of the concept of evidence. For more details see section 6 below.
21. I am not saying that Quine is under any illusion on this point. My remarks are directed rather at those who endorse Quine without, it seems, a clear appreciation of what is involved.
22. Here I am drawing chiefly on Donald Davidson's writings on radical interpretation. See Essays 9, 10, and 11 in his *Inquiries into Truth and Interpretation* (Oxford: Clarendon Press, 1984). See also David Lewis, "Radical Interpretation", *Synthese* 27 (1974): 331-44.
23. Robert Audi suggested this as a possible objection.
24. For some considerations tending to show that these correlations cannot be lawlike see my "Psychophysical Laws", in Ernest LePore and Brian McLaughlin (eds.), *Actions and Events: Perspectives on the Philosophy of Donald Davidson* (Oxford: Blackwell, 1985).
25. For a more sympathetic account of Quine than mine, see Hilary Kornblith's introductory essay, "What is Naturalistic Epistemology?", in Kornblith (ed.), *Naturalizing Epistemology*.
26. See for more details Alvin I. Goldman, *Epistemology and Cognition* (Cambridge: Harvard University Press, 1986).
27. *The Nature of Mathematical Knowledge* (New York: Oxford University

- Press, 1983), p. 14.
28. *Ibid.*
  29. *Ibid.*, p. 13. I should note that Kitcher considers the apychologistic approach to be an aberration of the twentieth century epistemology, as represented by philosophers like Russell, Moore, C.I. Lewis, and Chisholm, rather than an historical characteristic of the Cartesian tradition. In "The Psychological Turn", *Australasian Journal of Philosophy* 60 (1982): 238-253, Hilary Kornblith gives an analogous characterization of the two approaches to justification; he associates "justification-conferring processes" with the psychologistic approach and "epistemic rules" with the apychologistic approach.
  30. See Goldman, "What is Justified Belief?".
  31. David M. Armstrong, *Truth, Belief and Knowledge* (London: Cambridge University Press, 1973), p. 166.
  32. The aptness of this characterization of the "apychologistic" approach for philosophers like Russell, Chisholm, Keith Lehrer, John Pollock, etc. can be debated. Also, there is the issue of "internalism" vs. "externalism" concerning justification, which I believe must be distinguished from the psychologistic vs. apychologistic division.
  33. Moore, "A Reply to My Critics", in P.A. Schilpp (ed.), *The Philosophy of G.E. Moore* (Chicago & Evanston: Open Court, 1942), p. 588.
  34. Richard Rorty's claim, which plays a prominent role in his arguments against traditional epistemology in *Philosophy and the Mirror of Nature*, that Locke and other modern epistemologists conflated the normative concept of justification with causal-mechanical concepts is itself based, I believe, on a conflation of just the kind I am describing here. See Rorty, *ibid.*, pp. 139ff. Again, the critical conflation consists in not seeing that the view, which I believe is correct, that epistemic justification, like any other normative concept, must have factual, naturalistic criteria, is entirely consistent with the rejection of the doctrine, which I think is incorrect, that justification itself *is*, or is *reducible* to, a naturalistic-nonnormative concept.
  35. *The Language of Morals* (London: Oxford University Press, 1952), p.145.
  36. See "Concepts of Supervenience", *Philosophy and Phenomenological Research* 65 (1984): 153-176.
  37. Ernest Sosa, too, considers epistemological supervenience as a special case of the supervenience of valuational properties on naturalistic conditions, in "The Foundation of Foundationalism", *Nous* 14 (1980): 547-64; especially p. 551. See also James Van Cleve's instructive discussion in his "Epistemic Supervenience and the Circle of Belief", *The Monist* 68 (1985): 90-104; especially, pp. 97-99.
  38. Perhaps one could avoid this kind of criteriological regress by embracing directly apprehended valuational properties (as in ethical intuitionism) on the basis of which criteria for other valuational properties could be formulated. The denial of the supervenience of valuational concepts on factual characteristics, however, would sever the essential connection between value and fact on which, it seems, the whole point of our valuational activities depends. In the absence of such supervenience, the very



- notion of valuation would lose its significance and relevance. The elaboration of these points, however, would have to wait for another occasion; but see Van Cleve's paper cited in the preceding note for more details.
39. Quine will not disagree with this: he will "naturalize" them both. For his views on values see "The Nature of Moral Values" in Alvin I. Goldman and Jaegwon Kim (eds.), *Values and Morals* (Dordrecht: Reidel, 1978). For a discussion of the relationship between epistemic and ethical concepts see Roderick Firth, "Are Epistemic Concepts Reducible to Ethical Concepts?" in the same volume.
  40. For discussions of this and related issues see Goldman, *Epistemology and Cognition*.
  41. For a detailed development of a normative ethical theory that exemplifies the view that it is crucially relevant, see Richard B. Brandt, *A Theory of the Good and the Right* (Oxford: The Clarendon Press, 1979).
  42. An early version of this paper was read at a meeting of the Korean Society for Analytic Philosophy in 1984 in Seoul. An expanded version was presented at a symposium at the Western Division meetings of the American Philosophical Association in April, 1985, and at the epistemology conference at Brown University in honor of Roderick Chisholm in 1986. I am grateful to Richard Foley and Robert Audi who presented helpful comments at the APA session and the Chisholm Conference respectively. I am also indebted to Terence Horgan and Robert Meyers for helpful comments and suggestions.

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