Traditional Epistemology and Epistemology Naturalized

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Published version available **in *Logique et Analyse*** here: <https://poj.peeters-leuven.be/content.php?url=article&id=3290353&journal_code=LEA&download=yes>

Abstract

In this paper, I develop a new interpretation of Quine’s epistemology in the hopes of clarifying the relationship between naturalized epistemology and traditional epistemology. Quine’s naturalized epistemology is commonly criticized on the grounds that it amounts to giving up on traditional epistemological projects in favor of projects in natural science. But, I argue, this criticism rests on a mistaken interpretation of Quine’s epistemology. This is because Quine’s naturalized epistemology retains an important meliorative component; part of its aim is to improve our systems of beliefs. Quine’s approach emphasizes improving our beliefs by engaging in conceptual clarification, which is a central part of both traditional and naturalized epistemology, as well as, on Quine’s conception, scientific inquiry. Thus, I argue, a central task of naturalized epistemology is to *clarify* science from within. Once this is properly understood, it is evident that Quine’s naturalized epistemology constitutes a re-orientation, rather than a wholesale rejection, of the projects of traditional epistemology.

**Keywords:** Naturalism • Traditional Epistemology • Normativity • Conceptual Clarification

1. Naturalized Epistemology and Its Critics

As Quine puts it in “Epistemology Naturalized,” epistemology is the study of the relation between the “meager input” of the senses and the “torrential output” of scientific theory (Quine 1969, 83).[[1]](#footnote-1) Moreover, he conceives of epistemology as having two “sides.” The *doctrinal* side of epistemology is concerned with truth, as Quine puts it, with “justifying our knowledge of truths of nature” (Quine 1969, 71). The *conceptual* side of epistemology is concerned with meaning. The project here is that of “explaining the notion of a body in sensory terms” (Quine 1969, 71).[[2]](#footnote-2) It is initially somewhat puzzling what this project has to do with epistemology, since it appears to be a project in semantics or ontological reduction. We will be able to resolve this initial puzzlement in the next section. For now, it is sufficient to recognize that what these two sides have in common is that they both are concerned with the relations between evidence and theory.

To understand *naturalized* epistemology, we must also understand naturalism. Quine describes naturalism in various ways, but according to what is perhaps his most succinct formulation, naturalism is “the recognition that it is within science itself, and not in some prior philosophy, that reality is to be identified and described” (Quine 1981a, 21).

Quine’s conception of naturalized epistemology simply amounts to his conception of epistemology interpreted as a naturalized project, in the sense just articulated. That is, as Quine understands it, epistemology is the study of the relations between evidence and theory, and if it is to be naturalized, this study should take place “within science itself, and not in some prior philosophy.” As Quine puts it: “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” (Quine 1969, 76). The “available information” includes, of course, information concerning the processes by which we come to articulate theories about the world, and this information is within the purview of psychology, as well as related disciplines such as cognitive science and linguistics. Hence, as Quine suggests, we should “settle for psychology” (Quine 1969, 75).

It is against this suggestion—that epistemologists should settle for psychology—that the main criticisms of Quine’s naturalized epistemology are directed. One such criticism, famously articulated by Jaegwon Kim (1988), is that the “surrender of the epistemological burden to psychology” (Quine 1969, 75) makes epistemology merely *descriptive*. That is, psychology can only describe the processes by which we actually form beliefs. But, the criticism goes, traditional epistemology is *normative*; its task is not to explain how we form beliefs about the world, but rather, to explain what *justifies* those beliefs.

Taking Cartesian epistemology as his example, Kim argues that traditional epistemology is a normative area of inquiry. As he puts it: “We can view Cartesian epistemology as consisting of the following two projects: to identify 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” (Kim 1988, 381). The aim of traditional epistemology, according to Kim, is to articulate a standard of epistemic justification and apply it to our beliefs, with an eye toward improving their epistemic status.

Thus, on Kim’s view, the project of traditional epistemology is *meliorative* in that at least part of its aim is the improvement of the epistemic status of our beliefs. And this idea, that epistemology should be meliorative, is a core component of traditional epistemology (Kitcher 1992, 64; Rysiew 2020). As Kitcher puts it, on a meliorative conception, “[t]he central problem of epistemology is to understand the epistemic quality of human cognitive performance, and to specify strategies through whose use human beings can improve their cognitive states” (Kitcher 1992, 74-5). Once again, consider Descartes’ epistemological project. As he explains in the *Meditations*, the task of this project is to reconstruct as much of his inherited belief structure as possible. Many of his inherited beliefs, he realizes, are dubious, and he hopes, by careful investigation, to develop strategies by means of which he can allay these doubts. These strategies are articulated not only in the *Meditations*, but also in his *Discourse on Method* and *Rules for the Direction of the Mind*. Descartes’ project in these works is in large part to articulate principles by means of which he can determine which of his inherited beliefs he actually *should* believe. This normative project is thus clearly a meliorative one, in that Descartes explicitly sets out to improve the epistemic status of his inherited beliefs.

But, Kim argues, Quine’s naturalized epistemology completely abandons the meliorative aspect of traditional epistemology. As Kim puts it, if we repudiate “rational reconstruction” and instead “settle for psychology” we are abandoning “the entire framework of justification-centered epistemology” and replacing it with “a purely descriptive, causal-nomological science of human cognition” (Kim 1988, 388). Hence, according to Kim, “Quine is asking us to set aside what is “rational” in rational reconstruction.” Consequently, “it is normativity that Quine is asking us to repudiate” (Kim 1988, 389).

Kim concludes that naturalized epistemology cannot really be a replacement for traditional epistemology, since it completely abandons traditional epistemology’s central normative project; the meliorative project of articulating principles by means of which we can determine what we should believe. In a similar vein, critics like Barry Stroud argue that naturalized epistemology is not really epistemology at all. What appears to be naturalizing an area of investigation actually amounts to simply changing the subject. As Stroud puts it: “Any question empirical science can answer could not be the traditional philosopher’s question. That is not to say there can be no such thing as a science of human knowledge, but only that any such ‘internal’ investigation, however feasible, could never be expected to answer the traditional question” (Stroud 1984, 220).

A central idea in these criticisms is that Quine’s naturalized epistemology amounts to a complete rejection of traditional epistemological projects in favor of projects that can be done “within” science. But I think this idea is mistaken. By relocating traditional epistemological projects within the broader scientific project, Quine does not reject these projects, but rather, re-orients them. In particular, as I will argue, Quine’s naturalized epistemology retains the *meliorative* core of traditional epistemological projects. And this explains why naturalized epistemology really is normative, and really is epistemology. It does not amount to simply changing the subject.

1. Goal, Constraint, and Strategy: From Traditional to Naturalized Epistemology

In order to see the important continuities between traditional epistemology and Quine’s naturalized approach, it will be useful to characterize these orientations toward epistemology in terms of *goals* that they aim to achieve, *constraints* that they place on the proper achievement of those goals, and *strategies* that they implement for achieving their goals under the given constraints.

The goal of traditional epistemology, as Quine understands it, is to explain how our beliefs about the world around us can be justified on the basis of the evidence of our senses. That is, in Quine’s terms, the goal of traditional epistemology is located on epistemology’s *doctrinal* side. As traditionally understood, for example by Descartes, achieving this goal amounts to finding a way to bridge the gap between the phenomenal content of our minds and the world outside of our minds which that content purports to represent. The thought is that, if we could bridge the gap between our senses and the world, we would thereby show how evidence from our senses could justify our beliefs about the world around us. This goal is meliorative because achieving it would improve the epistemic status of our beliefs. Our beliefs about the world around us would be justified on the basis of evidence from our senses, and not merely unreflectively inherited.

Traditionally, epistemology has placed a severe and important constraint on the achievement of its goal. Because physical objects, importantly including our sense organs and nervous system, are not themselves part of the phenomenal content of our minds, we cannot use information about such objects to help us achieve the goal of explaining how our beliefs about the world can be justified on the basis of our senses. Thus, under this constraint, traditional epistemology comes to *include* “first philosophy.” That is, under this constraint, epistemological investigations must be conducted in a way that is prior to and independent of the results of natural science. It is important to note here that “first philosophy” is thus not *identical* with traditional epistemology.[[3]](#footnote-3) Rather, traditional epistemology includes first philosophy as a *constraint* on achieving its stated goal.

Traditional epistemology includes first philosophy as a constraint because, if the task of epistemology is to justify the results of natural science, those results cannot be used in the justification, on pain of vicious circularity. Quine and his critics alike are fully aware of this issue. As Stroud puts it, “the traditional epistemologist’s question was meant to put all [scientific information] into jeopardy and hence to render it unavailable for such explanatory purposes” (Stroud 1984, 220). And, according to Quine, relying on scientific information “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” (Quine 1969, 75-76).

So, how was the goal of traditional epistemology to be achieved, subject to the constraint of first philosophy? The answer to this question, as Quine understands it, is that the strategy of traditional epistemology was to devise a way to define physical object concepts in terms of phenomenal concepts.[[4]](#footnote-4) That is, the strategy of traditional epistemology is located on epistemology’s *conceptual* side. Incidentally, this explains why Quine conceives of the conceptual side of epistemology, which might appear to concern semantics or ontology, as epistemological. The task of the conceptual side of epistemology is epistemological because executing this task is the strategy for achieving an epistemological goal.[[5]](#footnote-5) The strategy of *defining* physical object concepts in terms of phenomenal concepts obeys the constraint of first philosophy because the activity of constructing definitions can be conducted prior to and independent of scientific information about the world.

Carnap’s work in epistemology provides an example of what Quine would consider to be a traditional approach. Carnap begins his paper “Testability and Meaning” by noting that the primary problems of epistemology are what he calls “the question of meaning” and the “question of verification.” These problems align with the conceptual and doctrinal sides of epistemology, respectively. The “question of meaning” concerns “under what conditions a sentence has meaning,” and therefore falls on the conceptual side of epistemology. The “question of verification” concerns “how we can find out whether a given sentence is true or false,” and therefore falls on the doctrinal side of epistemology. Moreover, according to Carnap, the question of verification “presupposes” the question of meaning in the sense that “we must understand a sentence, i.e. we must know its meaning, before we can try to find out whether it is true or not” (Carnap 1936, 420).[[6]](#footnote-6) Thus, according to Carnap, the conceptual work of clarifying the relation between a sentence about physical objects and sensory evidence was a strategy for achieving the doctrinal goal of determining whether that sentence was true.

Thus, the goal and strategy of traditional epistemology are shaped by its constraint, its restriction to the resources of philosophy unaided by natural science or other sources of information about physical bodies. Quine, of course, rejects this constraint by embracing naturalism, by recognizing “that it is within science itself, and not in some prior philosophy, that reality is to be identified and described” (Quine 1981a, 21). And Quine’s naturalism, I will argue, leads him to a *re-orientation*, not a rejection, of the traditional goal and strategy.

It is worth emphasizing here that Quine’s naturalism, and consequent rejection of first philosophy, is the ultimate driving force of the changes wrought by naturalizing epistemology. As Verhaegh (2018, ch. 2) argues, Quine is not driven to naturalism by a sense of despair over our failure to achieve the goal of traditional epistemology. Rather, for Quine, naturalism is fundamental, and as Verhaegh argues, it drives Quine to see the traditional goal not just as unachievable, but as pointless. It will be useful to briefly rehearse Verhaegh’s argument for this point.

The traditional doctrinal task, as Quine understands it, is to show how to derive truths about physical objects from truths about sense data, thereby solidifying the justificatory status of claims about physical objects. To be sure, Quine does think that this task is impossible. He thinks that Hume has shown that we cannot *derive* truths about physical objects from truths about sense data. And this is an attitude that he held consistently throughout his career. In his 1946 “Lectures on David Hume’s Philosophy,” he writes that “Hume’s negative doctrine is inevitable, I think, in any thorough-going empiricism” (Quine 2008a, 95). And nearly 50 years later, in the *Pursuit of Truth*, he makes the point again:

Traditional epistemology sought grounds in sensory experience capable of implying our theories about the world, or at least of endowing those theories with some increment of probability. Sir Karl Popper has long stressed, to the contrary, that observation serves only to refute theory and not support it. We have now been seeing in a schematic way why this is so (Quine 1992, 12).[[7]](#footnote-7)

In “Epistemology Naturalized,” Quine reiterates that Hume’s discoveries scuttled the traditional doctrinal project in epistemology. “On the doctrinal side, I do not see that we are farther along today than where Hume left us. The Humean predicament is the human predicament” (Quine 1969, 74). But, as Verhaegh explains, for Quine the impossibility of achieving the goal of traditional epistemology is not the real problem. The real problem is that even if we *could* derive truths about physical objects from truths about sense data, this would *not* further solidify the justificatory status of claims about physical objects. The reason for this is that, according to Quine, sense data are posits, just like physical objects. Consequently, sense data are not any more epistemologically fundamental than physical objects, so reducing physical object talk to sense data talk, *for the purpose of solidifying the justificatory status of physical object talk*, would be pointless (Verhaegh 2019, Ch. 2; Quine 1960, §1, §48). Quine sums up the point nicely: “The naturalistic epistemologist dismisses this dream of prior sense-datum language, arguing that the positing of physical things is itself our indispensable tool for organizing and remembering what is otherwise, in James’ words, a “blooming, buzzing confusion”” (Quine 2008b, 462).

A moment’s reflection should convince you that, from the point of view of our current best overall theory, sense data are far more epistemically tenuous than are physical objects. Hence, it is clear that it would be pointless to try to epistemically justify talk of physical objects in terms of talk of sense data. Now, given the reason why is it pointless to pursue the goal of traditional epistemology—the doctrinal side—It seems that Quine should also say that it is pointless to pursue the traditional strategy, the conceptual side of epistemology. After all, sense data are not conceptually clearer than physical objects. In fact, as Quine emphasizes, it is the other way around. As he puts it: “Talk of subjective sense qualities comes mainly as a derivative idiom. When one tries to describe a particular sensory quality, he typically resorts to reference to public things—describing a color as orange or heliotrope, a smell as like that of rotten eggs” (Quine 1960, 1). And: “If we improve our understanding of ordinary talk of physical things, it will not be by reducing that talk to a more familiar idiom; there is none. It will be by clarifying the connections, causal or otherwise, between ordinary talk of physical things and various further matters which in turn we grasp with help of ordinary talk of physical things.” (Quine 1960, 3). These passages are both drawn from section 1 of *Word & Object*, whose title, “Beginning with ordinary things,” perhaps suffices to make the point that, for Quine, physical objects, and not sense data, are conceptually fundamental.

Consequently, we might ask, what conceptual clarity could possibly be gained from reducing talk in the clearer idiom of physical objects to the less clear idiom of sense data? It seems that Quine should say that the strategy of traditional epistemology is just as pointless as its goal. Once we “settle for psychology” and “work within” our current best overall theory, we will recognize that talk of physical objects is clearer to us than talk in the “derivative idiom” of sensory experience. Thus, we should expect Quine to say that the project of trying to define physical concepts in terms of sensory concepts would be a pointless effort to reduce the clear to the obscure.

But Quine doesn’t say that. Instead, he says:

The project of a rational reconstruction of the world from sense data … is an attractive idea, for it would bring scientific discourse into a much more explicit and systematic relation to its observational checkpoints. My only reservation is that I am convinced, regretfully, that it cannot be done (Quine 1981a, 23).

Thus, while the traditional goal is to be rejected because it is pointless to pursue, the traditional strategy must be rejected, “regretfully,” because it is impossible to implement. And this is puzzling. If sense data are conceptually no clearer than physical objects, how would translating physical object talk into sense data talk “bring scientific discourse into a much more explicit and systematic relation to its observational checkpoints” and thereby clarify “how evidence relates to theory” (Quine 1969, 83)? Why isn’t the traditional conceptual project just as pointless as the traditional doctrinal project? Or, as Quine put it: “What… could have motivated Carnap’s heroic efforts on the conceptual side of epistemology” (Quine 1969, 74)?

To answer these questions, let’s begin by reminding ourselves that the project of the conceptual side of epistemology, as Quine conceives of it, is a project of ontological reduction. The goal is, as Quine says, to show the “essential innocence of physical concepts, by showing them to be theoretically dispensable” (Quine 1969, 76). Given this, it seems at first a little odd that Quine proposes that we “settle for psychology” in this project, but not in other projects in which we demonstrate the “essential innocence” of concepts by showing how we could eliminate them, via explication, from our overall theory. For example, Quine never proposes that we try to understand arithmetical concepts by investigating how we come to acquire dispositions to assent to sentences like “2+3=5.” Instead, he thinks we should understand arithmetical concepts by showing how to reduce them to set-theoretical concepts. By doing so, we will have shown that arithmetical talk is a convenient way of speaking, but it engenders no ontological commitment to, say, natural numbers, because we can ultimately dispense of talk of numbers in favor of talk of sets (or classes). But this allows us to raise a parallel version of the question raised in the previous paragraph. As Quine admits, sets are conceptually less clear than, say, natural numbers, so how would reducing arithmetic to set theory clarify arithmetical concepts? Why isn’t this reduction pointless?

Quine’s answer is that the reduction of arithmetic to set theory clarifies the concepts of arithmetic not because the reduction base is clearer, but because the reduction exposes conceptual connections that we might not otherwise see. That is, the reduction “still enhances clarity, but only because of the interrelations that emerge and not because the end terms of the analysis are clearer than others” (Quine 1969, 70).[[8]](#footnote-8) Consequently, if we were to “settle for psychology” in an attempt to understand our arithmetical concepts, we would fail to see the interrelations revealed by a set-theoretical reduction, and thus not clarify our understanding of arithmetical concepts as well as we could have.

Similarly, Quine’s thought is that the traditional conceptual project in epistemology isn’t pointless because the reduction of physical object talk to talk of sensory qualities might have revealed various interrelations between these concepts—it would have brought “scientific discourse into a much more explicit and systematic relation to its observational checkpoints” (Quine 1981a, 23)—and thereby clarified the relation between theory and evidence. What “could have motivated Carnap’s heroic efforts on the conceptual side of epistemology,” according to Quine, was that “such constructions could be expected to elicit and clarify the sensory evidence for science” and “deepen our understanding of our discourse about the world” (Quine 1969, 74-5). Thus, while the goal of traditional epistemology was to be abandoned, the strategy that Carnap and Russell had chosen to achieve this goal appeared to be worthy of pursuit in its own right. The traditional conceptual project promised to yield increases in the clarity and systematicity of our discourse about the world, and this is the reason why Quine thinks there is value in that project, despite rejecting the traditional doctrinal project as pointless.

In the remainder of this paper, I will endeavor to show that the value that Quine sees in the traditional conceptual project helps to explain the sense in which his naturalized epistemology is meliorative. But first, let me sum up some of the points made so far, and preview the main conclusion that I will draw from them.

The *strategy* of traditional epistemology was to establish conceptual links between physical object concepts and concepts of sensory experience in order to link the evidence of our senses with the theoretical claims that they were to support. This is the task of the *conceptual* side of traditional epistemology. Under the *constraint* of first philosophy, this strategy was to be executed by constructing definitions of physical object concepts in sensory terms. The purpose of doing this was to clarify “how evidence relates to theory” (Quine 1969, 83). But without the constraint of first philosophy, the aim of clarifying the relation between evidence and theory becomes more generalized. In particular, in attempting to achieve this aim, there is no need to restrict our attention to conceptual links between sensory experience and physical objects. Of course, we can so restrict our attention, and when we do, Quine advises that we “settle for psychology.” But, more generally, the task of the conceptual side of naturalized epistemology includes the task of establishing conceptual links between various parts of our current best overall theory. By working on this task, we will clarify our theory as a whole, and thereby also clarify its relation to our evidence. By engaging in the general task of conceptual clarification from within science, we *improve* our overall scientific theory of the world. Thus, work on the conceptual side of epistemology can be meliorative in character. Quine refers to this meliorative work as a kind of engineering, and it is in this engineering work that he locates the normativity of naturalized epistemology. Or so I will argue.

1. The Meliorative Project of Naturalized Epistemology

According to Philip Kitcher, traditional epistemology is meliorative, and at least some forms of naturalized epistemology can be, too. He writes: “The most prominent contemporary versions of naturalism formulate the meliorative epistemological project in terms of enhancing the *reliability* of the cognitive processes we employ” (Kitcher 1992, 65, emphasis in original). Here, Kitcher specifically has in mind projects like Goldman’s (1979) reliabilist program. Kitcher sees a continuity between such projects and traditional epistemological projects, such as those of Descartes and Bacon, because they aim at the epistemic improvement of our beliefs. But, according to Kitcher, Quine’s naturalized epistemology is much more radical because it completely abandons any normative pretensions, and instead focuses solely on describing how we arrive at the beliefs that we have. Kitcher claims that by “letting epistemology fall into place as chapters of psychology, sociology, history of science,” Quine’s “[r]adical naturalism thus abandons the meliorative venture of Bacon and Descartes” (Kitcher 1992, 96).

 But Quine insists that his naturalized epistemology retains an important normative element. Here are some representative passages.

Naturalization of epistemology does not jettison the normative and settle for the indiscriminate description of ongoing procedures. For me normative epistemology is a branch of engineering. It is the technology of truth-seeking, or, in a more cautiously epistemological term, prediction (Quine 1986, 664-665).

Traditional epistemology was in part normative in intent. Naturalistic epistemology, in contrast, is viewed by Henri Lauener and others as purely descriptive. I disagree. Just as traditional epistemology on its speculative side gets naturalized into science, or next of kin, so on its normative side it gets naturalized into technology, the technology of scientizing (Quine 2008b, 468).

[Traditionalists] are wrong in protesting that the normative element, so characteristic of epistemology, goes by the board. Insofar as theoretical epistemology gets naturalized into a chapter of theoretical science, so normative epistemology gets naturalized into a chapter of engineering: the technology of anticipating sensory stimulation (Quine 1992, 19).

In these passages, Quine consistently draws a distinction between a “theoretical” or “speculative” side of epistemology, and a “normative” side, which he consistently associates with engineering or technology. Let’s refer to these sides of epistemology as “theoretical epistemology” and “epistemological engineering,” respectively. Given that Quine has already drawn a distinction between “doctrinal” and “conceptual” sides of epistemology, one might wonder how, if at all, these distinctions are related. How many “sides” does epistemology have?

The theoretical side of epistemology, Quine tells us, is what gets “naturalized into a chapter of theoretical science.” Quine’s language here suggests that by “theoretical epistemology” he means work on epistemology’s conceptual side. Once naturalized, the project of theoretical epistemology is the project of figuring out how a human subject could construct their overall theory of the world on the slender basis provided by the impacts at their nerve endings. As he argues in “Epistemology Naturalized,” we should leave this project to the relevant areas of science, notably psychology. If theoretical epistemology aligns with epistemology’s conceptual side, it would be natural to suppose that epistemological engineering aligns with epistemology’s doctrinal side. On this reading, the “engineering” task of naturalized epistemology would be to develop the “technology of truth-seeking;” tools which we can implement to aid us in the doctrinal task of making judgments about how the world is. And this is how Gary Ebbs (2019) conceives of the matter:

When we are working on the doctrinal side of epistemology, constructing theories in our pursuit of truth, our task is to construct theories whose terms are linked to impacts at our nerve endings as closely as possible, given our other theoretical goals. When we are working on the conceptual side of Quine’s epistemology, our task is to describe both how a child may come to learn her first language and the links between her sentences and sensory stimulation that come to exist as a result of such learning (Ebbs 2019, 133-134).

On Ebbs’ interpretation, work on the conceptual side of naturalized epistemology *is* purely descriptive. By contrast, the normative element of naturalized epistemology can be found on its doctrinal side, in the development of the “technology of truth-seeking.” But what is this technology? Given that the aim of the doctrinal side of epistemology is to make judgments about how the world is on the basis of our evidence, the technology relevant to this aim appears to fall under the broad heading of inferential statistics and other sources of methodological precepts. And this is certainly *part* of what Quine has in mind. He writes, for example:

[Naturalized epistemology] draws upon mathematics in computing standard deviation and probable error and in scouting the gambler’s fallacy. It draws upon experimental psychology in exposing perceptual illusions, and upon cognitive psychology in scouting wishful thinking. It draws upon neurology and physics, in a general way, in discounting testimony from occult or parapsychological sources (Quine 1986, 665).

In a more technical vein, normative naturalized epistemology tangles with margin of error, random deviation, and whatever else goes into the applied mathematics of statistics (Quine 1992, 20).

On this reading, the normative element of epistemology consists in methodological lessons learned from applying scientific results to scientific inquiry itself. This reading is appealing because it explains how naturalized epistemology can retain a meliorative element, in just the way that Kitcher proposed. We employ statistical methods, and strive to avoid cognitive biases after all, in order to *improve* our reasoning. Thus, on this reading, even Quine’s “radical” naturalism can be meliorative in Kitcher’s sense.

So far, we are considering the following interpretation of Quine’s remarks on the normativity of epistemology. The “conceptual” and “theoretical” sides of epistemology amount to the same thing. Once naturalized, work on this side of epistemology becomes an “indiscriminate description of ongoing procedures.” The purpose of this work is to explain how a human subject can go from impacts at its nerve endings to a theory of the world. This is still a conceptual project, as Quine understands it, because it is concerned with explaining how theoretical concepts relate to sensory concepts. And this is so even if the explanation is given in terms of descriptions of how human subjects come to have the concepts that they do on the basis of the sensory experiences that they have.[[9]](#footnote-9)

But this does not mean that epistemology as a whole is merely descriptive. This is because the *doctrinal* side of epistemology becomes “epistemological engineering,” the side of epistemology whose aim is to develop technologies which we can employ to help us make judgments about how things are. Inferential statistics is a notable example of such a technology, and as I noted, it is clearly meliorative. Thus, epistemology, via its transformation into engineering, retains a normative element.

The neatness and simplicity of this interpretation is tempting, but as we will see, it is difficult to square with Quine’s own descriptions of epistemological engineering, and with the role that the actual work of epistemological engineering plays in his overall philosophy. Instead, as I will argue, an important part of the task of epistemological engineering lies on the *conceptual* side of epistemology. Thus, contrary to Ebbs’ account, *part* of the normativity of naturalized epistemology is to be found on its conceptual side.

As I emphasized in section 1, the goal of traditional epistemology is meliorative in that a central aim of traditional epistemology is the improvement of the epistemic status of our beliefs. For Descartes, this project took the form of reconstructing his inherited beliefs in order to justify them. Like Descartes, Quine proposes that we investigate the “lore of our fathers” (Quine 1976, 132). But, “[u]nlike Descartes, we own and use our beliefs of the moment, even in the midst of philosophizing” (Quine 1960, 24-25). Among these beliefs are beliefs about how we acquire our theory of the world (by which Quine means speech dispositions) on the basis of our evidence (by which Quine means impacts at our nerve endings). Quine investigates the relation between theory and evidence along these lines in Chapter 2 of *Word & Object* (Quine 1960) and *The Roots of Reference* (Quine 1974), among other places. Perhaps because those naturalistic projects are such radical departures from epistemological investigations conducted under the constraint of first philosophy, it is easy to miss Quine’s *other* epistemological investigations, that have much stronger continuities with traditional epistemology. To make matters worse, Quine is not always very clear in describing the approach to epistemology that he actually takes in his work. Despite the fact that he encourages his readers to “settle for psychology,” he does not always practice what he appears to preach. As I noted earlier, he doesn’t appeal to psychology in many of his significant projects of explication and ontological reduction. Ordered pairs are explicated in terms of sets. In fact, the whole of arithmetic is be reduced to set theory. Mental states are reduced to physical states (Quine 1960, sections 53-54). The list goes on. This contrast—between psychologistic and non-psychologistic approaches to conceptual clarification—is perhaps most jarring in *Word & Object*. Quine famously gives a psychologistic account of belief and language use in chapter 2, while much of the material of the remaining chapters is devoted to the task of explicating various concepts for which there may be no fruitful psychologistic explication.[[10]](#footnote-10)

 I am not denying that an important part of Quine’s epistemological project is the description of how a human subject could arrive at a theory of the world, given only sensory stimulation to go on. But I am pointing out that this is not the whole of Quine’s epistemological project. And he says as much in “Naturalism; Or Living within One’s Means.” First, he reiterates that naturalized epistemology does involve the descriptive project detailed above:

The naturalistic epistemologist settles for what he can learn about the strategy, logic, and mechanics by which our elaborate theory of the physical world is in fact projected, or might be, or should be, from just that amorphous neural intake (Quine 2008b, 467).

Quine is aware of the objection that this will prompt, and he raises it himself, asking: “Is this sort of thing still philosophy?” In response, he writes:

Naturalism brings a salutatory blurring of such boundaries. Naturalistic philosophy is continuous with natural science. It undertakes to clarify, organize, and simplify the broadest and most basic concepts, and to analyze scientific method and evidence within the framework of science itself. The boundary between naturalistic philosophy and the rest of science is just a vague matter of degree (Quine 2008b, 467).

Notice that Quine *doesn’t* say that naturalistic philosophy is “continuous with natural science” because it employs results of psychology and statistics to help us to improve our judgments about how things are. That is, he does not say that naturalized philosophy is continuous with natural science because of the way in which it contributes to the doctrinal task of naturalized epistemology. Rather, the aim of naturalistic philosophy is characterized here as explicitly conceptual and explicitly meliorative; the aim is to “clarify, organize, and simplify the most basic concepts” thereby *improving* natural science.

And this point is not an isolated statement, but rather, a view that Quine consistently held throughout his career. He stated it perhaps most clearly, to my mind, at the end of *Word & Object*:

The philosopher’s task differs from the others’ … in detail; but in no such drastic way as those suppose who imagine for the philosopher a vantage point outside the conceptual scheme that he takes in charge. There is no such cosmic exile. He cannot study and revise the fundamental conceptual scheme of science and common sense without having some conceptual scheme, whether the same or another not less in need of philosophical scrutiny, in which to work. He can scrutinize and improve the system from within, appealing to coherence and simplicity; but this is the theoretician’s method generally (Quine 1960 275-276, my emphasis).

Being unable to take up a position of “cosmic exile,” the naturalistic philosopher must work from within “the conceptual scheme that he takes in charge.” And what does that work involve? The task, as Quine says, is to “scrutinize and improve the system.” Hence, the task of the naturalistic philosopher is both conceptual and meliorative; the point is to “scrutinize” and “improve” our conceptual scheme.

In stressing the continuity between science and naturalized epistemology, Quine emphasizes that the epistemologist’s task concerns, in part, clarifying and streamlining our theoretical concepts and the relations between them. This is a conceptual task, in that it involves clarifying our concepts, and it is a meliorative task, in that it involves improving the structure of our current best overall theory. Given Carnap’s influence on Quine, this is perhaps not surprising. After all, Carnap’s project—the logic of science—involved the rational reconstruction of scientific theories in order to make their conceptual structure clearer and more streamlined. The task of the conceptual side of epistemology is what Carnap’s logic of science is transformed into once it is naturalized in Quine’s sense.[[11]](#footnote-11) The conceptual side of naturalized epistemology is the logic of science, conducted from within science itself.

But what does this conceptual work have to do with the “technology of anticipating sensory stimulation” (Quine 1992, 19)? How is this still engineering, in Quine’s sense? The answer is that, for Quine, our overall scientific theory is “a tool, ultimately, for predicting future experience in the light of past experience” (Quine 1951, 41). The purpose of the work of conceptual clarification that is part of the meliorative task of naturalized epistemology is to refine this tool; to make it a better predictive instrument for our use. In this work, “[t]he important thing is to understand our instrument; to keep tabs on the diverse presuppositions of diverse portions of our theory, and reduce them where we can” (Quine 1980, 117). And:

Each reduction that we make in the variety of constituent constructions needed in building the sentences of science is a simplification in the structure of the inclusive conceptual scheme of science. Each elimination of obscure constructions or notions that we manage to achieve, by paraphrase into more lucid elements, is a clarification of the conceptual scheme of science. The same motives that impel scientists to seek ever simpler and clearer theories adequate to the subject matter of their special sciences are motives for simplification and clarification of the broader framework shared by all the sciences. Here the objective is called philosophical, because of the breadth of the framework concerned; but the motivation is the same. The quest of a simplest, clearest overall pattern of canonical notation is not to be distinguished from a quest of ultimate categories, a limning of the most general traits of reality (Quine 1960, 161).

For Quine, the “conceptual scheme of science” is an instrument for predicting future stimulation in light of past stimulation. And we can improve this instrument in part by eliminating the obscure in favor of the lucid, thereby clarifying our overall theory of the world. But, our theory of the world is not *merely* an instrument. For, it is only by working within this this theory that we can “judge truth as earnestly and absolutely as can be” (Quine 1960, 25). The insight of naturalism is that there is no standard for what theories we should accept that is “higher or firmer” than the standards encoded in our current best practices of inquiry. Hence, it makes no sense to wonder, as the traditional epistemologist did, whether our current best theories are justified.[[12]](#footnote-12) But what are our current best theories? They are, in part, those theories that are clearest to us. By working within our current best theories to clarify them—engaging in the meliorative task of naturalized epistemology—we improve them, rendering them more efficient as instruments of prediction. As Ebbs puts it, when we are engaged in the pursuit of truth, “our task is to construct theories whose terms are linked to impacts at our nerve endings as closely as possible” (Ebbs 2019, 133-134). But notice that part of the process of theory construction is, as I have explained, the task of clarifying theoretical terms in order to, ultimately, make their linkages to our evidence clearer to us. True, one way in which we clarify the relation between evidence and theory is simply to describe how a human subject could come to develop a theory of the world on the slender basis provided by the impacts at its nerve endings. And this descriptive project is indeed *part* of the conceptual side of naturalized epistemology. But I have argued here that this descriptive project is not *all* of naturalized epistemology, contrary to the criticisms of Kim, Stroud, and Kitcher. Another important part of epistemology freed from the *constraint* of first philosophy—epistemology *naturalized*—is to employ the *strategy* of conceptual clarification in order to help us achieve the doctrinal *goal* of making judgments about how things are.

Thus, the conceptual side of epistemology includes work that Quine characterizes as epistemological engineering. Quine’s naturalized epistemology is thus part of the meliorative project to improve and clarify our current best overall theory from within. It is therefore a re-orientation, not a rejection, of traditional epistemology’s meliorative project to improve our system of beliefs.

### Acknowledgements

I presented this work at the TiLPS History of Analytic Philosophy Workshop in December 2020, and the annual meeting of SSHAP in July 2021. On both occasions, I benefitted from a number of excellent questions that helped me to improve this paper. I am particularly grateful to Andrew Smith, Warren Goldfarb, and Gary Ebbs for very helpful questions, objections, and suggestions at these conferences and in correspondence afterwards. Finally, I wish to acknowledge that many of the ideas in this paper have developed out of years of delightful conversations and productive disagreements with Gary Ebbs, for whose support and encouragement I remain deeply grateful.

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1. As Quine clarifies later, in naturalized epistemology, talk of our senses as sources of evidence should be replaced by talk of impacts at our nerve endings as our sources of evidence. But because I am discussing Quine’s conceptions of both traditional and naturalized epistemology, I will use “senses” and its cognates to refer to either phenomenal content or impacts at our nerve endings, depending on whether traditional or naturalized epistemology is at issue. I hope that no confusion will result from this convenience of phrasing. [↑](#footnote-ref-1)
2. This is how Quine puts it here, but more generally, the conceptual side of epistemology is concerned with explaining theoretical concepts in sensory terms. This means that explaining non-physical body concepts such as *force* or *number* in sensory terms also falls within the remit of the conceptual side of epistemology. Thanks to an anonymous referee for this journal for prompting me to clarify this point. [↑](#footnote-ref-2)
3. Sander Verhaegh (2018, Ch. 2) reaches this conclusion by different means, which are nevertheless congenial to the point I am making here. [↑](#footnote-ref-3)
4. Again, more generally the strategy of traditional epistemology, as Quine understands it, is to find a way to define theoretical concepts in terms of sensory concepts. See footnote 2. Since Quine’s discussion in “Epistemology Naturalized” focuses specifically on physical object concepts, I follow suit here. [↑](#footnote-ref-4)
5. I think it is worth noting that this really is a traditional project, despite Quine’s idiosyncratic way of thinking about the history of philosophy. In one way or another, the “British Empiricists” (Locke, Berkeley, Hume) were all engaged in it. And the approaches that Quine specifically mentions, namely those of Russell and Carnap, engage in that project too. Their approaches just look more promising to Quine because they employ the power of set theory, which was of course not available to the classical empiricists. [↑](#footnote-ref-5)
6. My discussion in this paragraph is heavily indebted to Gary Ebbs, who brought this passage to my attention, and pointed out the relevance of Carnap’s conception of epistemology to my argument here. [↑](#footnote-ref-6)
7. Thanks to Johnsen (2017, Ch. 10) for bringing these passages to my attention. [↑](#footnote-ref-7)
8. See also Morris (2015) for helpful discussion of the purpose of the reduction of arithmetic to set theory in Quine’s naturalistic philosophy. [↑](#footnote-ref-8)
9. For further clarification of this point, see (Ebbs 2014). As Ebbs explains, the point of Quine’s investigations into the link between our linguistic behavior and impacts at our nerve endings is to “provide a naturalistic replacement for the conceptual side of Carnap’s logic of science” (Ebbs 2014, 478). [↑](#footnote-ref-9)
10. I am grateful to Warren Goldfarb for offering the contrast between the early and late chapters of *Word & Object* as an example of the contrast for I am remarking on here. For more on this point, see also (Carlson 2015, section 3). [↑](#footnote-ref-10)
11. Thanks to Warren Goldfarb for helping me to clarify my thinking on this point. See also footnote 9. This point raises a difficult interpretive issue which I can note, but not resolve, here. As Ebbs (2014; and in personal correspondence) points out, Carnap’s logic of science is *synchronic* in the sense that it consists of developing language systems that are considered fixed once theorizing within them actually begins. By contrast, the conceptual clarification that I am discussing here is *diachronic*; it takes place simultaneously with, and indeed is part of, our working within our current best overall theory of the world. For this reason, Ebbs holds that clarification of the concepts that we use in our ongoing inquiries is actually part of the doctrinal task of naturalized epistemology; the task of judging how things are from within our current best overall theory. As I argue below, the task of clarifying our concepts is indeed part of scientific inquiry, for Quine, so my apparent disagreement with Ebbs may be merely terminological; it may be a disagreement about how to apply “doctrinal” and “conceptual” here. [↑](#footnote-ref-11)
12. See Johnsen (2017) for a largely congenial argument for this point. [↑](#footnote-ref-12)