Notes on Epistemology Naturalized

Thesis: Epistemology conceived as a philosophical field independent of the natural sciences has proved unable to reach its aims and should be replaced by a conception of epistemology which views it as a branch of empirical psychology.

Quine's history lesson begins with the search for the foundations of mathematics, which he views an exemplary field of epistemology. Despite its ultimate failure, Quine retrieves a two-sided conception of epistemology. Epistemology consists of two parts. The conceptual side is concerned with clarifying concepts by defining them, some in terms of others, while the doctrinal side seeks to establish laws by proving them, some on the basis of others. These two sides work in concert, the conceptual studies seek to reduce concepts into clearer terms which can then be proven more easily in the doctrinal work.

In the epistemology of natural knowledge, which is Quine's primary concern here, this bifurcated scheme also applies. "Just as mathematics is to be reduced to logic, or logic and set theory, so natural knowledge is to be based somehow on sense experience. This means explaining the notion of body in sensory terms; here is the conceptual side. And it means justifying out knowledge of truths of nature in sensory terms; here is the doctrinal side of the bifurcation."

Hume worked on both side of the epistemological problem. On the conceptual side he identified bodies outright with sense impressions. Unfortunately on the doctrinal side Hume ran into a wall. By identifying bodies with impressions, he managed to establish some statements about bodies as indisputable truths, but general statements and predictive statements gaining nothing by being construed as about impressions.

Quine believes that Hume's problem on the doctrinal side is unavoidable. "The Humean predicament is the human predicament." On the conceptual side some progress has been made. Bentham recognized that to explain a term we do not need to specify an object for it to refer to, but only show how to translate the whole sentence within which the term occurs; we can use conceptual definitions. This was substantial progress because "One could undertake to explain talk of bodies in terms of talk of impressions by translating one's whole sentences about bodies into whole sentences about impressions, without equating bodies themselves to anything at all."

So, epistemologists have two techniques available in their quest for an epistemology of natural knowledge. They can resort to set theory and logic or they can use contextual definition. Set theory is a "drastic ontological move," so the more reasonable approach is to use contextual definitions. This project, of accounting for the external world as a logical construct of sense data, was most nearly completed by Carnap in some book in German.

Turning back to the doctrinal side, Quine notes that even if Carnap's constructions were carried to completion and all sentences about the world were translated into terms of sense data plus logic and set theory, we would make no progress in Hume's predicament. Couching sentences in terms of observation, logic and set theory does nothing to prove it from observation sentences by logic and set theory. "The most modest of generalizations about observable traits will cover more cases than it utterer can have had occasion actually to observe. " Grounding natural science on immediate experience was found to be hopeless. The Cartesian dream was over.

So why do all this? Why clarify the conceptual side of epistemology if the doctrinal side was hopeless. Two reasons for this rational reconstruction: first, such constructions should elicit and clarify the sensory evidence for science and second, such constructions would deepen our understanding of our discourse about the world. Despite these problems two cardinal truths of empiricism remain unassailable. One is that whatever evidence there is for science is sensory evidence and the second is that all inculcation of meanings of word must rest ultimately on science.

Another questions arises, however, why not settle for psychology? Traditionally this would be rejected as
circular reasoning, but since the absolute deduction of science from sense experience is impossible, such a rejection has little bite. Instead, if we could translate science into logic and observation terms and set theory, we could show all the rest of concepts of science to be theoretically superfluous, legitimizing them.

This is, in fact, Carnap’s plan. Unfortunately, he fails. This results in an enormous problem for epistemology. It already gave up the hope of deducing the truths of nature from sensory experience. And now, by despairing even of translating those truths into terms of observation and logico-mathematical auxiliaries, another damaging concession has been made. If we agree with Peirce that the meaning of a statement consists in the difference its truth would make in experience, then it may be possible to create a sentence in observational language which contains all the difference that a given statement would make and then translate it. By giving up such a project, the empiricist is conceding that the empirical meanings of typical statements about the external world are “inaccessible and ineffable.”

Quine believes that this occurs because a typical statement about bodies has “no fund of experiential implications it can call its own.” Statements are embedded in theories and it is those theories that we can test. A failure of a theory shows that the conjunction of many statements is false, that one or more of those statements is incorrect, but not which one. Theories as a whole can be translated, not statements or terms.

This is disastrous for epistemology. “If we recognize with Peirce that the meaning of a sentence turns purely on what would count as evidence for its truth, and if we recognize with Duhem that theoretical sentences have their evidence not as single sentences but only as larger blocks of theory, then the indeterminacy of translation of theoretical sentences is the natural conclusion. And most sentence, apart from observation sentences, are theoretical. This conclusion, conversely, once it is embraced seals the fate of any general notion of propositional meaning, or for that matter, state of affairs.” There is no advantage of epistemology and rational reconstruction over psychology.

Thus, Quine thinks that epistemology should become a branch of psychology and of natural science, studying how evidence is related to theory and in what ways one’s theory of nature transcends any available evidence. This new epistemology would search for an understanding of science as an institution or process in the world, an understanding which is not any better than the science that is its object.

Quine goes on to discuss some specific problems which would be illuminated by viewing epistemology in this way such as the debate between sensory atomists and Gestalt psychologists and the debate over what counts as observation sentences. He also points to a few areas which may be opened up by viewing epistemology in this manner: perceptual norms and evolutionary epistemology (I think these fields are appealing by virtue of their alliteration. Evolutionary ethics, evolutionary epistemology: they just sound nice).