

Quine on Epistemology

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Epistemology and Foundations

- “Epistemology is concerned with the foundations of science” (69).
- Since mathematics is a science, it is concerned with foundations of mathematics.
- It has been shown that mathematics can be reduced to logic and set theory.
- Although set theory is not as firm and obvious as logic, the reduction holds a lesson for the rest of epistemology.

Conceptual and Doctrinal Studies

- There are two aspects to the study of the foundations of mathematics.
 - The clarification of the meaning of mathematical concepts (conceptual studies),
 - The establishment of the truth of mathematical laws through proof (doctrinal studies).
- The ideal goal would be to clarify the concepts to the point that the bases of the proofs are obviously true.
- The conceptual studies of mathematics ends with concepts of set theory, which are no clearer by themselves than are mathematical concepts.
- The basis of the proof of mathematical laws are the axioms of set theory, which "have less obviousness and certainty to recommend them than do most of the mathematical theorems that we would derived from them" (70).
- So the study of foundations of mathematics is epistemologically disappointing.

Natural Knowledge

- The bifurcation of the tasks of epistemology applies equally to natural knowledge.

- Natural knowledge is to be based on sense experience, just as mathematics is reduced to logic and set theory.
 - The notion of body is to be explained in sensory terms,
 - The truths of nature are to be justified in sensory terms.
- Hume (as Quine interprets him) carried out the epistemology of natural knowledge in just this way:
 - Identifying bodies with sense impressions,
 - Justifying singular statements about bodies in terms of sense impressions.
- But Hume despaired of justifying singular statements about the future, or general statements.

Carnap's Epistemology

- In *The Logical Construction of the World*, Carnap attempted to carry out the Humean program in epistemology.
- On the conceptual side, the external world was taken to be a logical construct of sense data.
- But on the doctrinal side, Carnap could not hope to be successful.
 - “The most modest of generalizations about observable traits will cover more cases than its utterer can have had occasion actually to observe” (74).
- So why did Carnap undertake the project?
 - The constructions could at least clarify the sensory evidence for science,
 - They would “deepen our understanding of our discourse about the world” (75).

Logical Construction and Empiricism

- There are two “cardinal tenets of empiricism” that remain “unassailable” (75).
 - The only evidence for science is sensory knowledge,
 - The only way words get their meaning is through sensory evidence.
- A successful Carnapian logical construction of objects from sense data would be useful for this reason.
- But such a construction would be limited because it is purely logical: any one would do so long as it “made the physicalistic discourse turn out right. If there is one way there are many” (75).

Actual Construction and Psychology

- At this point, it must be asked why we should bother with logical construction.
- Why not instead look to psychology to determine how we actually construct a picture of the world from the stimulation of sensory receptors?
- It might be thought that there is an objectionable circularity here:
 - Our goal is to provide foundations for the sciences, and we use psychology (one of the sciences) to provide the foundation.
 - But this is no objection, since the goal is only conceptual, not doctrinal: we are not trying to prove the truth of psychology using psychology.
 - In clarifying our concepts, we ought to make use of whatever is available, including a science whose relation to sensory evidence we are trying to understand.

Translational Reduction

- There is a second reason to favor pursuing rational reconstruction over scientifically examining actual construction.
- If we could translate all the sentences of science into logic, set theory and observational terms, then we could eliminate the theoretical terms of science.
- By showing how the theoretical terms can be eliminated, we would legitimize their use (as with Russell's elimination of definite descriptions).
- Psychology cannot accomplish this task, since we did not learn language on this basis.
- But Carnap failed to give translations, either in the *Aufbau* or using other devices in later writings.
- "Better to discover how science is in fact developed and learned than to fabricate a fictitious structure to a similar effect" (78).

Empirical Meaning

- Giving up the hope for translational reduction is a major concession by empiricists.
- Consider Peirce's claim that the empirical meaning of a statement is the difference to possible experience that its truth would make.
- Without translational reduction, "empirical meanings of typical statements about the external world are inaccessible and ineffable" (79).
- The problem is not that the experiential consequences of a statement about bodies is too complex to be axiomatized finitely.

- Quine suggests that the problem is that there is no unique set of experiential consequences of any statement about bodies.
- Only whole theories have experiential consequences, and the notion of empirical meaning would apply only to them.

Indeterminacy of Translation

- An apparently inescapable consequence of a verification theory of meaning such as Peirce's is the indeterminacy of translation.
- Theoretical sentences make a difference to possible experience only as a body, as Duhem recognized.
- Because different bodies of theoretical sentences can accommodate given possible experiences, there is no determinate translation of an individual theoretical sentence.
- "And most sentences, apart from observation sentences, are theoretical" (81).
- The indeterminacy thesis, if adopted, means that there is no general notion of propositional meaning or of states of affairs that would be meant by the propositions.

The Fate of Epistemology

- The failure of both the conceptual and the doctrinal components of epistemology seems to indicate that epistemology itself should be abandoned.
- The logical positivists themselves abandoned epistemology.
- Wittgenstein and the Oxford philosophers adopted this view: they wanted to cure philosophers of the delusion that there are epistemological problems.
- But epistemology goes on, only with a new status: as a chapter of psychology.
- It is a branch of natural science, which studies a physical human subject.
- It describes the relation between evidence (meager sensory input) and theory (torrential theoretical output).

Old vs. New Epistemology

- In the sense described above, epistemology is contained in natural science.
- It may be useful to use rational reconstruction in epistemology to provide hints about how actual psychological processes work.
- In so doing, empirical psychology can be used, whereas it was proscribed in the old epistemology.

- The epistemological enterprise itself is an attempt at scientific theorizing, and so natural science is contained in epistemology.
- There is no circularity in this enterprise, since there is no question of justification, only of understanding.

Epistemological Priority

- Naturalizing epistemology allows us to solve old puzzles about epistemological priority.
- Which is to count of the basic evidence:
 - The two-dimensional irradiation of the retina?
 - The three-dimensional apprehension that results from it without inference?
- The sensory stimulation is prior.
- “*A* is epistemologically prior to *B* if *A* is causally nearer than *B* to the sensory receptors” (85).
- Or perhaps it is better just to drop talk of epistemological priority.

Observation Sentences

- There was a debate in the Vienna Circle about what is to count as observation sentences:
 - Reports of sense impressions,
 - Elementary statements about the external world (“a red cube is standing on the table”).
 - Reports of relations between percipients and external things (“Otto now sees a red cube on the table”).
- In naturalized epistemology, an observation sentence is one that is causally closest to sensory receptors.
- These would be those which are most strongly conditioned to the sensory stimulation when we learn sentences, rather than “stored information.”
- Questions about truth or falsehood would be answered only on the basis of the sensory stimulation present at the time the question is asked (plus any “stored information” needed to understand the sentence).

Analyticity

- Accepting that there is information that is restricted to understanding a sentence appears to allow for analyticity.
- But Quine has rejected that distinction.
- A necessary condition for a sentence true by virtue of meaning is that it be “subscribed to by all fluent speakers in the community” (86).
- It is not sufficient, however, because all fluent speakers in the community might agree to a sentences such as “There have been black dogs.”
- There seems to be no distinction we can make between truth from merely understanding the language and community-wide agreement.
- We might re-define an observation sentence as “one on which all speakers of the language give the same verdict when given the same concurrent stimulation” (86-7).

Observation Sentences and Scientific Theory

- The present account of observation sentences accords well with scientific practice.
- We take conformity to observation sentences to be the basis for deciding whether to accept scientific theories.
- So, scientific theories are held up against the verdict of all language users (or perhaps all within a specialized community) when stimulated in the same way.
- It is likely that the observation sentences would be about bodies, since it is unlikely that there would be agreement about subjective experience.
- The appeal of subjective experience was lost when the doctrinal project was given up.

Overcoming Nihilism

- One beneficial effect of naturalizing epistemology is to overcome the recent wave of philosophical nihilism.
- When the doctrinal project is abandoned, it is tempting to think that the tie between evidence and theory is cut altogether.
- This leads thinkers such as Kuhn “to belittle the role of evidence and to accentuate cultural relativism” (87).
- Hanson went so far as claim that observation is completely relative, as when the scientist sees an x-ray tube and the non-scientist sees just the components of the instrument.

- Observation sentences as understood by Quine can accommodate this with by relativizing them to a specialized community, while allowing an absolute standard defined by the whole community.

The Primacy of Observation Sentences

- The notion of observation sentences is fundamental to both the traditional studies in epistemology:
 - The conceptual: we learn observation sentences first,
 - The doctrinal: observation sentences are the evidence for scientific hypotheses.
- Observation sentences are also the basis of semantics.
 - Only observation sentences confront sensory experience on their own, having their on empirical content, which they wear on their sleeve.

Rubbing Out the Boundaries

- Epistemology has now become semantics.
- This is consistent with some of the sensibilities of logical empiricism.
 - Epistemology is centered on evidence,
 - Meaning is centered on verification,
 - Evidence is verification.
- It is not consistent with some of its other sensibilities.
 - Meaning has no clear application to single sentences beyond observation sentences.
 - The boundaries between epistemology, psychology, and linguistics are rubbed out.

Epistemological Progress?

- The merger of epistemology with psychology and linguistics may lead to some progress.
- In using language, we interpret the myriad sounds we hear as belonging to one of about thirty phonemes.
- These phonemes constitute linguistic norms.
- Perhaps we can discover experimentally a corresponding “alphabet” of perceptual norms, which would be the building-blocks of all perceptual experience.
- Some of these may be variable across cultures, and others universal.
- Another promising avenue is evolutionary epistemology, which might help us explain color-perception or even induction in terms of survival value.