

## Naturalized Epistemology

### Quine PY4613

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## 1. What is naturalized Epistemology?

Quine starts out his paper on "Naturalized Epistemology" with the following (quite surprising) quote:

"Epistemology is concerned with the *foundation* of science. Conceived thus broadly, epistemology includes the study of the foundation of mathematics as one of its departments." (p. 69)

Issues:

- How should "foundation" here be understood? Considering what we know about Quine, how can epistemology be concerned with the foundations of science?
- For him, mathematics is a mere "department of science". (I'm furious!!!)
- Anyway, epistemology then is – in parts – concerned with the foundation of mathematics.
- Quine hopes to motivate his view about recent developments in the foundation of mathematics.

a. What motivates naturalized epistemology?

**Note:** Rather than looking at what epistemologists do with mathematics, he looks how foundational mathematicians have offered a foundation for mathematics in terms of a *reduction*.

“Studies in the foundation of mathematics divide symmetrically into two sorts, conceptual and doctrinal. The conceptual is concerned with meaning and the doctrinal is concerned with truth.” (69)

**Conceptual studies:** Clarifying concepts, illuminating concepts, showing interrelationships between concepts.

**Doctrinal studies:** proving laws, showing how one law can be derived from another. Etc.

→ These studies fail!

“Reduction in the foundation of mathematics remains mathematically and philosophically fascinating, but it does not do what the epistemologist would like of it: *It does not reveal the ground of mathematical knowledge, it does not show how mathematical certainty is possible.*” (70)

What exactly is the reason that this offers no account of mathematical knowledge?

- Because, as we know by now, Quine doesn't think there can be a proper reduction of concepts to others?
- A reduction of mathematics to logic is futile since second-order logic is set theory?
- Because set theoretic principles are not obvious?

Note: the only “epistemic” notions Quine uses are “obviousness, self-evidence and certainty”. He shows that these don't apply to mathematical foundation. Why should this entail that it cannot explain mathematical knowledge?

Quine's official doctrine about mathematics -  
Indispensability argument:

Premise 1.

Mathematics is *indispensable* to our scientific theories, in that it can neither be formulated nor practised without mathematical vocabulary.

Premise 2.

If mathematics is indispensable to our accepted theories, then if those scientific theories are true then one is committed to regard the mathematical theories involved in the theorising of scientific theories to be true.

Intermediate Conclusion 1.

If scientific theories are true, then one is committed to regard the mathematical theories involved in the theorising of scientific theories to be true.

Premise 3.

Scientific theories are true.

Intermediate Conclusion 2

Mathematical theories involved in scientific theorising is true.

→ Surely this doesn't explain mathematical knowledge in terms of certainty, self-evidence, etc. But then what is he wanting to show?

*Empirical knowledge* – a parallel to mathematical knowledge.

He aims to draw a parallel to mathematical knowledge when considering empirical knowledge using the “bifurcation” of doctrinal and conceptual studies.

“The parallel is as follows: 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 our knowledge of truths of nature in sensory terms, here is the doctrinal side....”

→ A strange analogy to draw, since we don't according to Quine have a good account of mathematics! So, is the analogy used to show how epistemology goes wrong in mathematical and empirical knowledge?

### **The doctrinal side of epistemology:**

This part of epistemology has to do with the validation of *justification* for empirical science. That is to offer a genuine foundation.

Quine's resolution:

Quine's Scepticism:

There is no genuine justification of the *general* truth of nature. Induction – a way of generalising on the basis of limited observation – is illegitimate.

Quine's justification for his Scepticism:

In order to justify induction an assumption has to be made about the uniformity of nature (it will resemble the past). Yet, on the basis of experience no such justification can be given, since to do so is to *presupposed* the uniformity of nature.

Quine's *resolution*:

“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.”

→ Reject the doctrinal demand for a justification of empirical knowledge. Is this a stable position?

Consequences of rejecting the doctrinal approach:

a) He thereby rejects the idea of a genui

### **The conceptual side of epistemology:**

“We should like to be able to *translate* science into logic and observation term and set theory. This would be a great epistemological achievement for it would show all the rest of the concepts of science to be theoretically superfluous. It would legitimate them – to whatever degree the concepts of set theory, logic and observation are themselves legitimate – by showing that everything done with the one apparatus could in principle be done with the other.” (76)

→ This approach was taken up by Carnap and the other members of the Vienna Circle.

Quine needs good reasons to reject this idea of a conceptual approach to epistemology and his considerations go back to “Two Dogmas”.

Two Dogmas of Empiricism (or rather “Two non-empirical dogmas of the logical Empiricist”):

- *Rejection of the analytic/synthetic distinction.*

As a result there is no purely a priori conceptual investigation possible.

- *Rejection of the dogma of reductionism.*

This guarantees that each single sentence in isolation can so be confirmed and disconfirmed and thus it’s meaning can be established.

- *Indeterminacy of translation/reference/facts*

This also guarantees that there is no genuine translation possible between theoretical sentences and sense-data statements as envisaged by Carnap.

So, what is it we are left with? What is Naturalized Epistemology and what is Quine’s version of it?

Naturalized Epistemology (general):

b) What are its doctrines?

*Naturalized Epistemology*

The broad view that epistemological questions are questions to be addressed using the results and methods of empirical science.

This is normally embedded in a view

*Naturalized Empiricism*

The empiricist view that all knowledge is empirical. There is no a priori knowledge, no conceptual investigation that provides a foundation for science, in general.

But, now that we lost epistemology in its traditional outlook what is it that Quine aims to do when pursuing naturalized epistemology?

Naturalized Epistemology: On Epistemology in general

“Epistemology, or something like it, simply falls into place as a chapter of psychology and hence of natural science.”

“It studies a natural phenomenon, viz. a physical human subject. This human subject is accorded with a certain controlled input – certain patterns of irradiation of assorted frequencies ... 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 meagre input and the torrential output is a relation that we are prompted to study for somewhat the same reasons that always prompted epistemology: namely, in order to see how evidence relates to theory, and in what ways one’s theory of nature transcends any available evidence.”

“Epistemology in its new setting ... is contained in natural science, as a chapter of psychology.”

## Naturalized Epistemology: Quine's project

Introduce observation sentence so to have something available (publicly accessible data and not sense data) that is "in the closest causal proximity to the sensory receptors" (85)

- The mistake of the Vienna Circle was to regard observation sentences as involving sense data.

## Quine of observation sentences:

"An observation sentence is one which all speakers of the language give the same verdict when given the same concurrent stimulation. To put the point negatively, an observation sentence is one that is not sensitive to differences in past experience within the speech community."

"The observation sentence is basic to both (conceptual and doctrinal) enterprises. It's relation to doctrine, to our knowledge of what is true, is very much the traditional one: observation sentences are the repository of evidence for scientific hypotheses. Its relation to meaning is fundamental too, since observation sentences are the ones we are in a position to learn to understand first, both as children and as field linguist." (89)

- The observation sentences wear the empirical content on their sleeve.
- The predicament of the indeterminacy of translation has little bearing on observation sentences. (stimulus meaning).
- With the help of observation sentences, the epistemologist can focus on evidence/verification. (Meaning is verification and verification is evidence...)
- Once we go behind observation sentences, Quine's holism kicks in and meaning and therefore evidence is construed holistically.

c) Naturalized Epistemology in the context of Quine's philosophy.

- “Epistemology is concerned with the *foundation* of science”. This is confusing at least, false at worst on Quine's views!
- There is no genuine foundation of science, so nothing can really be concerned with it.
- This is not a foundational approach but rather a coherentists view (more on this below)
- No philosophy first approach.
- Epistemology is part of science.
- His rejection of other approaches is, as usual, based on the two dogmas.
- There are worries whether his position is, in the end, stable.
- Lastly, what exactly is there to do for an epistemologist?

3. Naturalized Epistemology vs. Epistemology proper?

The main issue:

Is Quine offering a specific type of epistemology – coherentism, in contrast to foundational approaches – or is he basically rejecting any genuine place for epistemology.

What are the issues of Epistemology proper:

- Scepticism
- Lottery paradoxes
- Knowledge ascription and the assertion of knowledge
- Perceptual knowledge
- The notion of justification: Internalism/Externalism debate.

→ It is not clear that Quine engages in the debate or that his epistemology has the means to answer them.

### Charitable Reading:

- He rejects foundationalism.
- He adopts a coherentist approach within a broadly scientific outlook.
- Scepticism can occur and be discussed but only within science. A sceptical argument has the form that: Science suggest that science is impossible.
- This type of scepticism is not very convincing and therefore can be rejected. It's a kind of scepticism that takes place within scientific discourse.
  - ➔ Problem: Quine is a sceptic about induction?!  
How should this fit?
  - ➔ Problem about circularity.
- What about the other issues that concern epistemologists?

### Uncharitable Reading:

- Quine misunderstands scepticism.
- Scepticism is about a hypothetical possibility that we might be dreaming and no science can help resolve this.
- Naturalized Epistemology is ill-equipped to dealing with any epistemological issues.
- Psychology cannot help to resolve issues about justification, etc.
- Also there seem to be double standards:
  - ➔ Science is innocent until proven guilty.
  - ➔ Philosophy (traditional) is guilty until proven innocent.

## A Scientific refutation of science

- Is Quine a Realist or Anti-Realist?

Does the underdetermination of data/reference/facts and the fact that we can stand outside science commit him to a very broad anti-realism of the following sort:

I can only have knowledge that  $p$  if  $p$  is true. Yet since, there is a general underdetermination and in general indeterminacy it seems I should always be doubtful as to whether my beliefs are true, my beliefs are only true if – by luck – I chose the right theory. Hence, I can't have genuine knowledge as this would be based on mere luck.