

Handout # 6: Quine's Naturalized Epistemology

1. Two Foundationalist Projects: Semantic and Epistemological

A. The Semantic Project: In some parts of mathematics one has **axioms** that are (perhaps) **true by definition** and **theorems** that are **entailed** by these axioms.

A logical example:

1. For all x: If x is a bachelor, then x is unmarried.
Therefore,
2. There is no y such that y is married and y is a bachelor.

We can say that (1) is *true by definition* of 'bachelor': it's an *axiom*. And we can say that (2) is *entailed* by (1): it's a *theorem*. Why because the *rules of inference* that "permit" us to infer (2) from (1) are *valid by definition*: The rules are **validated** by the meaning of 'if...then', 'all' 'some' and 'not' in the way in which (1) is made true by the meaning of "bachelor."

How might we model empirical proofs in this way? We would have to have empirical propositions that were true by definition and then further empirical propositions that could be deduced from them. A **phenomenalist reduction** tries to *translate* sentences about material objects (or words standing for material objects) into sentences about our own experiences (or words denoting such experiences). If successful this would "define" material-object language in experiential terms. All that would then remain to secure the analogy with logical and mathematical reasoning would be the task of *deriving* a full body of propositions about material objects (their locations and properties) from these definitions. Even here, though, the analogy wouldn't be complete as some of the sentences needed for such a derivation won't be true by definition.

A schematic example:

- (1) There exists a chair, if I have or will have experiences of types E1...En.
 - (2) I am having experiences of types E1...En.
- Therefore,
- (3) There exists a chair.

Premise (2) is not true by definition. But (2) is verifiable via introspection alone (so long as 'E1...En' are intrinsic or qualitative characterizations of my experiences). But this is an **epistemological** fact about how the truth of (2) is *known*, it is not a **semantic/metaphysical** fact about what makes (2) *true*.

Quine's "Problems" with this project: (a) Carnap's failure shows us that we can't come up with adequate phenomenalist definitions like (1). (b) Hume shows us that truths about experiences we haven't yet had and universal generalizations about experiences like those made by scientists cannot be deduced from truths about the experiences we have had to date. A deduction would require the premise that the experiences we will come to have will resemble the experiences we have had so far, and this premise cannot be proved without assuming its truth—i.e. "begging the question."

2. The Epistemological Project

Some simple mathematical knowledge consists in:

(a) Knowing in virtue of one's grasp of geometrical or arithmetic concepts the truth of axioms stated in a language that expresses those concepts. Examples: $3 > 2$, triangles have three sides.

Or

(b) Reasoning in accordance with rules of inference that express or articulate logical concepts (like **modus ponens**: see below) to various theorems one therein comes to know. Example: Inferring from the two axioms above that triangles have more than two sides.

The Logical Example Above

(1') I know in virtue of grasping the concepts expressed by 'bachelor' and 'unmarried' that for all x: If x is a bachelor, then x is unmarried.

(2') I can prove from this that it is not the case that some bachelor is married.

A Semi-Formal Proof for the Purposes of Illustration:

Suppose for *reductio ad absurdum*

(*) Some bachelor is married. Call the bachelor in question "John." By hypothesis:

(a) John is a bachelor.

(b) John is married.

First Rule of Inference: **Universal instantiation**

For all x (Fx)

Fa, Fb, Fc....

Using universal instantiation on premise (1') (For all x: If x is a bachelor, then x is unmarried) we get:

(c) If John is a bachelor, then John is unmarried.

Second Rule of Inference: **Modus Ponens**

P

If P, then Q

Q

Using modus ponens on (a) and (c):

(d) John is unmarried.

Third Rule of Inference: **Conjunction Introduction**

P

Q_____

P&Q

Using conjunction introduction on (b) and (d):

(e) John is married and John is unmarried.

We have derived a contradiction from the supposition that some bachelor is married.

Fourth Rule of Inference: **Reductio Ad Absurdum**

P...
Q & not-Q
Not P

Using Reductio Ad Absurdum on (*) and (e):

(f) It is not the case that some bachelor is married.

(3') Suppose that I am justified in reasoning in accordance with Universal Instantiation by my understanding of "all", that I am justified in employing Modus Ponens by my understanding of "if", that I am justified in using Reductio Ad Absurdum by my understanding of "not", and that I am justified in using Conjunction Introduction by my grasp of "and." And supposed that the justification provided to me by my grasp of these special *logical concepts* allows me to use the associated rules of inference to gain knowledge of a conclusion from knowledge of a premise or set of premises.

Then,

(4') I know that there is no y such that y is married and y is a bachelor by reasoning to this conclusion in accordance with the logical laws described above from my knowledge that for all x: If x is a bachelor, then x is unmarried.

3. Okay, so now let's reconsider the argument described above:

(1) For all x: If x is a bachelor, then x is unmarried.

Therefore,

(2) There is no y such that y is married and y is a bachelor.

We can say that the proposition expressed by (1) is known *a priori*. (I know it solely in virtue of grasping the relevant concepts: "bachelor" etc.) And we can say that I come to know the proposition expressed by (2) by *deducing* it from something I know a priori using laws of logic I am justified in employing *a priori*.

Here we have my foundational or basic beliefs being a priori justified (i.e. in virtue of my grasp of concepts) and we have non-basic knowledge extracted from basic knowledge using reasoning that is a priori valid.

4. Moving to the empirical case we have:

A schematic example:

(1'') I know via my grasp of the concepts expressed by 'chair', 'E1' . . . 'En' that there exists a chair, if I have (or will have) experiences of types E1...En.

(2'') I know via introspection alone that I am having experiences of types E1...En.

(3'') I am justified in virtue of grasping the logical concept expressed by 'If' in reasoning from any premises of the form P and "If P, then Q" to a conclusion of the form Q.

(4'') I know that there exists a chair by reasoning to this conclusion in accordance with the logical laws described in (3'') from the conceptual knowledge described in (1'') and the introspective knowledge described in (2'').

Here we have my foundational or basic beliefs being a priori and introspectively justified and we have non-basic knowledge based on this basic knowledge via reasoning that is a priori valid.

Quine's "Problems" with this project: (a) Because of Carnap's failure we must recognize that the existence of a chair isn't entailed by one's having various experiences. (Note that this doesn't add anything to the BIV argument.) (b) Quine adds nothing to the Bonjour/Sellars coherentist critique of (2''): i.e. that we can't know anything on the basis of introspection alone because our justification must always involve auxiliary beliefs. (c) Hume shows us that facts we haven't yet observed and universal generalizations about physical objects and properties (i.e. the laws of nature) cannot be deductively inferred from facts we have observed. (A deduction would require the premise that the unobserved universe resembles the perceived universe, and this proposition cannot be verified without assuming its truth—i.e. "begging the question.")

Questions: What connection is there, if any, is between semantic and epistemological foundationalism? Is Quine right to claim, "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" (p. 295)?

Quine's Pessimistic Conclusion: We cannot hope to come up with a (normative) theory of what if anything justifies our empirical beliefs. We would be better served to limit ourselves to an account of what causes those beliefs—a description of the neuropsychological processes that begin with the "stimulation" of our sensory organs (or the firings of our sensory neurons) and culminates with our beliefs (or our uttering certain "observation" sentences).