

# **Philosophy 240: Symbolic Logic**

Russell Marcus  
Hamilton College  
Fall 2010

Class 30: November 5  
Quine and Ontological Commitment

# Two Basic Philosophical Questions

- Q1. What exists?
- Q2. How do we know?
- Q1 starts us on the road to metaphysics.
  - Are there minds?
  - Are there laws of nature?
  - Is there a God?
  - Ontology: our beliefs about what exists
- Q2 starts us on the road to epistemology.
  - Sense experience
  - Pure thought and reasoning

# Determining Our Commitments

- Some things obviously exist.
  - ▶ trees
  - ▶ houses
  - ▶ people
- Others things are debatable.
  - ▶ numbers
  - ▶ souls
  - ▶ quarks
  - ▶ James Brown
- Let's look at our language.

# Frege's Puzzles

## Three Problems

### 1. Cognitive Content

- ▶ Hesperus = Phosphorus

### 2. Empty Names

- ▶ Pegasus doesn't exist.
  - $\sim Ep$
  - But 'p' does not refer.
  - I can not say something about nothing!

### 3. Opaque Contexts

- ▶ Lois Lane believes that Superman can fly.
- ▶ Superman is Clark Kent
- ▶ So, Lois Lane believes that Clark Kent can fly.

# McX, Wyman, and Frege on Empty Names

- McX appeals to the idea of Pegasus as the referent of my term.
  - “McX would sooner be deceived by the crudest and most flagrant counterfeit than grant the nonbeing of Pegasus” (“On What There Is” 2).
- Wyman distinguishes between existence and subsistence.
  - “Wyman...is one of those philosophers who have united in ruining the good old word ‘exist’” (“On What There Is” 3).
  - What of impossible objects (e.g. the round square cupola)?
- Frege: terms have both sense (meaning, intension) and reference (extension)
  - Solves all three puzzles
    1. Cognitive Content
    2. Empty Names
    3. Opaque Contexts

# Meanings Nihilism

- Quine opposes intensions because of their lack of identity conditions.
  - ▶ “There seems little hope of erecting a fruitful science about them. It is not even clear, granted meanings, when we have two and when we have one; it is not clear when linguistic forms should be regarded as *synonymous*, or alike in meaning, and when they should not” (“Two Dogmas of Empiricism,” 64).
  - ▶ “If a standard of synonymy should be arrived at, we may reasonably expect that the appeal to meanings as entities will not have played a very useful part in the enterprise. A felt need for meant entities may derive from an earlier failure to appreciate that meaning and reference are distinct. Once the theory of meaning is sharply separated from the theory of reference, it is a short step to recognizing as the business of the theory of meaning simply the synonymy of linguistic forms and the analyticity of statements; meanings themselves, as obscure intermediary entities, may well be abandoned” (ibid).

# Extensionalism

- Propositions and modalities, like meanings, are intensions and lack identity conditions.
  - ▶ “Wyman’s overpopulated universe is in many ways unlovely. It offends the aesthetic sense of us who have a taste for desert landscapes, but this is not the worst of it. Wyman’s slum of possibles is a breeding ground for disorderly elements. Take, for instance, the possible fat man in that doorway; and again, the possible bald man in that doorway. Are they the same possible man, or two possible men? How do we decide? How many possible men are there in that doorway? Are there more possible thin ones than fat ones? How many of them are alike? Or would their being alike make them one? Are no *two* possible things alike? Is this the same as saying that it is impossible for two things to be alike? Or, finally, is the concept of identity simply inapplicable to unactualized possibles?” (“On What There Is” 4).’
- Quine approves of extensions.
  - ▶ references of terms
  - ▶ sets of objects, which depend only on their members

# A Problem for Extensionalists

- 'Creature with a heart' and 'Creature with a kidney'
  - same extension (extensionally equivalent)
  - different intension
- Let's not worry about this one; we already have Frege's puzzles.



# Quine on Empty Names



- There are no meanings, so Frege's route is out.
  - Meaningfulness can be expressed in terms of sentences and our beliefs (revealed by our behaviors) about them.
- There are names, but we shouldn't place the burden of reference on them.
  - Names can have referents or not.
  - Real numbers
  - 'I slew a Jabberwock for Julie's sake'.
- All things being equal, we should prefer standard semantics.
- But, if we have over-riding reasons to disavow a commitment that a standard semantics would imply, we should re-write our language.
- Get rid of names!
  - "We could [appeal] to the *ex hypothesi* unanalyzable, irreducible attribute of *being Pegasus*, adopting, for its expression, the verb 'is-Pegasus' or 'pegasizes'. The noun 'Pegasus' itself could then be treated as derivative, and identified after all with a description: 'the thing that is-Pegasus', 'the thing that pegasizes'" ("On What There Is" 8).
  - "Whatever we say with the help of names can be said in a language which shuns names altogether" ("On What There Is" 13).
- How now?

# Sense Experience?

- Empiricism: all claims about what exists must be derived from some kind of sense experience.
  - Locke
  - Hume
  - Carnap
- What about mathematics?
- Or atoms?

# Reason?

- Rationalism: beliefs can be justified by pure reason
  - Descartes
  - Gödel
- The rationalists have an account of numbers, since they are object of our pure thought.
- But rationalists are often accused of mysticism.

# Quine's Metaphysics

- The most effective way of formulating a theory is to put it in the language of first-order logic.
  - ▶ “We can very easily involve ourselves in ontological commitments by saying, for example, that *there is something* (bound variable) which red houses and sunsets have in common; or that *there is something* which is a prime number larger than a million. But this is, essentially, the *only* way we can involve ourselves in ontological commitments: by our use of bound variables” (“On What There Is” 12).
  - ▶ “To be assumed as an entity is, purely and simply, to be reckoned as the value of a variable” (“On What There Is” 13)
- Our metaphysics reduces to a process of interpreting our first-order theory.
  - ▶ We interpret a first-order theory by specifying a domain of discourse, a set of objects over which the quantifiers range.
  - ▶ We assign values to variables in order to model the theory, or provide an interpretation which makes the sentences of the theory come out true.
  - ▶ Our metaphysics is the simple byproduct of modeling the theory.
- Existence questions become questions about how best to write one's best theory.

# Quine's Criterion is Not Semantic

- Quine does not turn metaphysical questions into semantic ones.
- “How are we to adjudicate among rival ontologies? Certainly the answer is not provided by the semantical formula “To be is to be the value of a variable”; this formula serves rather, conversely, in testing the conformity of a given remark or doctrine to a prior ontological standard. We look to bound variables in connection with ontology not in order to know what there is, but in order to know what a given remark or doctrine, ours or someone else’s, says there is; and this much is quite properly a problem involving language. But what there is is another question” (“On What There Is” 15-16).
- The question of whether mathematical objects exist is the question of how to specify the prior ontological standard.

# Our Best Theories

What variables are relevant to the question of what exists?

- Quine is concerned with the best theories for explaining our sense experience.
- Quine is much like his empiricist predecessors in narrowing his focus on sense experience.
  - ▶ “We adopt, at least insofar as we are reasonable, the simplest conceptual scheme into which the disordered fragments of raw experience can be fitted and arranged. Our ontology is determined once we have fixed upon the over-all conceptual scheme which is to accommodate science in the broadest sense...” (“On What There Is” 16-17).
- He does not reduce all claims of existence directly to sense experiences.
  - ▶ We construct a theory of our sense experience.
  - ▶ We look at the theory and decides what it presupposes, or posits.
    - Interpretations, , Models, Domains of Quantifications
  - ▶ Our best ontology will be derived from our best theory.

# Posits and Myths

- The values of the bound variables are what a theory presupposes.
- These are the posits, the postulated entities, of the theory.
- Quine, in early work, calls them myths.
  - They are the result of our choice of a theory.
- This methodology is not intended to denigrate the objects posited.
  - “To call a posit a posit is not to patronize it” (*Word and Object* 22).

# Pegasus



- The problem that embroiled McX and Wyman in systems of idealism and subsistence was that names seemed unavoidably referential.
  - ▶ Meanings nihilism doesn't help.
- Quine urges us to avoid names altogether as the sources of reference.
- Look to the domain of quantification, and the objects which serve as values of our variables.
  - ▶ We regiment our best theory.
  - ▶ It will include, or entail, a sentence like:  
$$NR_{\exists}: \sim(\exists x)Px$$
  - ▶  $NR_{\exists}$  is logically equivalent to:  
$$NR_{\forall}: (x)\sim Px$$
- If we want to know whether this sentence is true, we look inside the domain of quantification.
- If there is no object with the property of being Pegasus, we call this sentence true on the interpretation.
- We construct our best theory so that everything in the world is in our domain of quantification, and nothing else is.