Philosophy 240: Symbolic Logic
Fall 2009
Mondays, Wednesdays, Fridays: 9am - 9:50am

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Philosophy Friday #6: Quine and Ontological Commitment
Fisher 59-69; Quine, "On What There Is"

I. The riddle of non-being

Two basic philosophical questions are:

Q1. What exists?
Q2. How do we know?

The first question starts us on the road to metaphysics.
Are there minds? Are there laws of nature? Is there a God?
The objects on our list of what we think exists are called our ontology, or our ontological commitments.
The second question starts us on the road to epistemology.
Some things obviously exist: trees and houses and people.
Others are debatable: numbers, souls, quarks, James Brown.
In his article "On What There Is" (OWTI), Quine worries about Pegasus.
Consider the sentence:

A: There is no such thing as Pegasus.

Part of Quine's worry is semantic: How can I state A, or any equivalent, without committing myself to the existence of Pegasus?
If we analyze this sentence as we have been analyzing some sentences in predicate logic, it might seem that A says that there is some thing, Pegasus, that lacks the property of existence: ~Ep
But Pegasus is not anything, 'p' does not refer, and I can not say something about nothing!
So, if Pegasus does not exist, then it seems a bit puzzling how I can deny that it exists.
I am talking about a particular thing, so it has to have some sort of being.

One option, which Quine ascribes to an imaginary philosopher McX, is to take 'p' as referring to the idea of Pegasus.
If 'Pegasus' refers to my idea, the statement A claims that the idea is not instantiated.
McX's solution, as Quine points out, demonstrates a basic confusion of ideas and objects.
'Benedict Hall is a warm building' refers to an object, not an idea.
'Pegasus is a winged horse' seems to have the same structure.
Why would it refer to an idea, rather than an object?
Anyway, I do have an idea of Pegasus; there is no object in the world corresponding to my idea.
"McX would sooner be deceived by the crudest and most flagrant counterfeit than grant the nonbeing of Pegasus" (2)!

Another option, which Quine ascribes to the imaginary Wyman, who represents early Russell or Meinong, distinguishes between existence and subsistence.
Only some names refer to existent objects.
All names of possible objects refer to subsistent objects.
"Wyman...is one of those philosophers who have united in ruining the good old word 'exist'" (3)!

There might also be impossible objects, like a round square cupola.
Wyman claims that terms for impossible objects are meaningless.
Quine: "Certainly the doctrine has no intrinsic appeal..." (5)
Note that if we take 'round square' to be meaningless, even though 'round' and 'square' are meaningful, we have to abandon the compositionality of meaning, that the meanings of longer strings of our language are built out of the meanings of their component parts.
Quine's main argument against Wyman, though, consists of his positive account of how to deal with names which lack referents, and how to deal with debates about existence claims, generally.

Answers to Q1 are tied to answers to Q2.
If I claim that electrons exist, I should be able to demonstrate how I discovered them, or how I posited them, or how their existence was revealed to me.
If you deny my claim that the tooth fairy exists, you will appeal the fact that we never see such a thing, for example.
To resolve disputes about what exists, we should have a method to determine what exists.
At least, we should agree on a way to debate what exists.

II. Quine's method

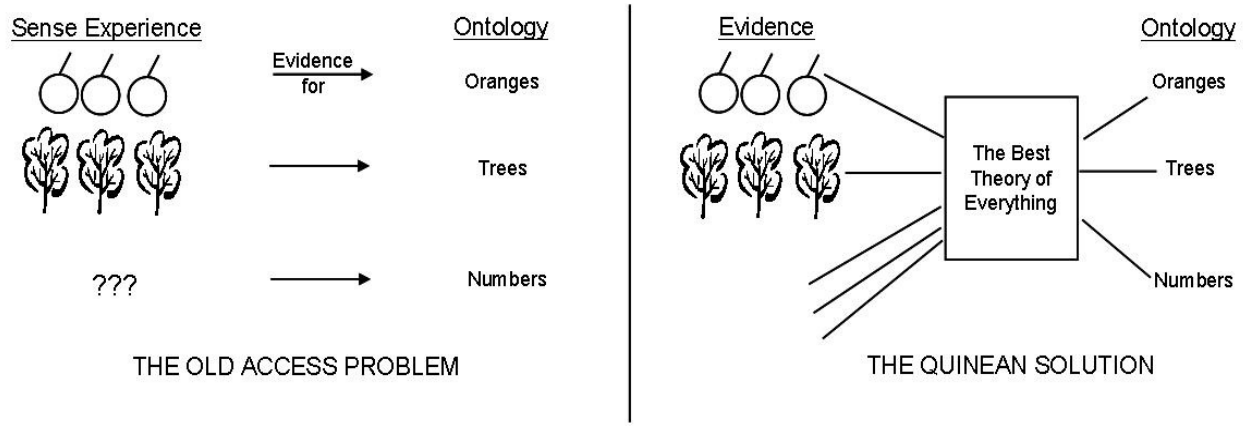
One method for determining what we think exists, that favored by Locke and Hume and Quine's mentor Rudolf Carnap, relies on sense experience.
For these philosophers, all claims about what exists must be derived from some kind of sense experience.
These empiricists had difficulty explaining our knowledge of mathematics and atoms, for example.
We do not have any sense experience of the abstract objects of mathematics, and yet we know many facts about them.
We have only the merest and most indirect sense experience of atoms.

Another method, favored by Descartes and the great logician Kurt Gödel, relies on human reasoning as well as sense experience.
The rationalists have an account of numbers, since they are object of our pure thought.
But rationalists are often accused of mysticism.
Indeed many rationalists, historically, claimed to have certain knowledge of the existence of God.
A seemingly magical ability to know something independently of sense experience can be used to try to justify beliefs in ghosts and spirits, as well as numbers and electrons.

Quine's method for determining ontic commitments uses the tools of first-order logic.
"To be is to be the value of a variable" (15).
I will attempt to answer two questions about Quine's method.
First, what variables are relevant to the question of what exists?
Second, what does it mean to be a value of a variable?

The answer to the first question is fairly straightforward.
Quine is concerned with the best theories for explaining our sense experience.
Quine is thus much like his empiricist predecessors in narrowing his focus on sense experience.
But, he is unlike traditional empiricists in that he does not reduce all claims of existence directly to sense experiences.

Instead, Quine constructs a theory of our sense experience.
Then, he looks at the theory, and decides what it presupposes, or what it posits.
Our best ontology will be derived from our best theory.



There may be competing best theories.
Thus, at the end of OWTI, Quine seems agnostic about whether to commit to phenomenalism or physicalism.
Should we commit only to the experiences we have, or to the physical world which we ordinarily think causes our experience?
But, the best theory will have to have some relation to the best science we can muster.

Still, there are questions about how to read a theory.
The question of how to formulate and read a theory is a main point of dispute between McX and Wyman.
Quine urges that the least controversial and most effective way of formulating a theory is to put it in the language of first-order logic.
He motivates his appeal to first-order logic with a discussion of Russell's theory of definite descriptions.
We will look at Russell's theory in greater depth in §8.7.
Consider, 'The King of America is bald'.
If we regiment 'the king of America' as a name, a constant, then we are led to the following paradox:

P: $\sim Bk \bullet \sim\sim Bk$

We assert '$\sim Bk$' because the sentence 'the king of America is bald' seems false.
We assert '$\sim\sim Bk$' because '$\sim Bk$' seems to entail that the king of America has hair, and that claim must be false, too.
If we regiment the sentence as a definite description, the paradox disappears.
'The king of America is bald' becomes: $(\exists x)[Kx \bullet (y)(Ky \supset y=x) \bullet Bx]$
'The king of America is not bald' becomes: $(\exists x)[Kx \bullet (y)(Ky \supset y=x) \bullet \sim Bx]$
Conjoining their negations, as we did in P, leads to no paradox.
You can derive the non-existence of a unique king of America, though, which is a desired result.

As Quine notes, we have to turn 'Pegasus' into a definite description in order to use Russell's technique on it.
Quine mentions the equivalence of 'Pegasus' and 'the winged horse captured by Bellerophon' in both OWTI and 'Designation and Existence' (DE), which is an early paper also available on the website.

Only in OWTI, though, does he introduce the predicate 'pegasizes'.
We can regiment 'Pegasus does not exist' as '~(∃x)Px'.
To this point, all we have done is write the awkward claim in first-order logic.
Quine further thinks that we have solved a problem, that we no longer have any temptation to think that there is a Pegasus in order to claim '~(∃x)Px'.
"The singular noun in question can always be expanded into a singular description, trivially or otherwise, and then analyzed out *á la* Russell" (8).
That is, Quine claims that a name can be meaningful, even if it has no bearer.
The distinction between meaning, or sense, and reference derives, as Quine notes, from Frege.
Frege used the example of the morning star (classically known as 'Phosphorus') and the evening star ('Hesperus') which both turned out to be the planet Venus.
The two terms referred to the same thing, despite having different meanings.
Compare: 'Clark Kent' and 'Superman'.

To defend his claim that we can have meaningful terms without referents, that we can use terms like 'Pegasus' without committing to the existence of something named by 'Pegasus', Quine appeals to his method of determining our commitments by looking at interpretations of first-order logic, as we did in our last class.
We call an interpretation on which all of a set of sentences come out true a model of that set.
A logically valid formula is one which is true on every interpretation.
When Quine says that to be is to be the value of a variable, he means that when we interpret our formal best theory, we need certain objects to model our theories.
Only certain kinds of objects will model the theory.
Any objects which appear in a model of the theory are said, by that theory, to exist.

I have mentioned that Hurley's system is sound and complete.
We can refine the definitions a bit.
Soundness means that every provable formula is true under all interpretations.
Completeness means that any formula which is true under all interpretations is provable.
The formulas which are true under all interpretations are the tautologies, or logical truths.

If we add non-logical axioms, we create a first-order theory of whatever that axiom concerns.
If we add mathematical axioms, we can create a first-order mathematical theory.
If we add axioms of physics, we can create a first-order physical theory.
By adding axioms of our best scientific theories, we can, theoretically, construct a grand theory of everything.
And what exists will be the objects in the domain of quantification of that theory.

III. Pegasus

Consider again Quine's original worry about Pegasus.
The problem that embroiled McX and Wyman in systems of idealism and subsistence was that names seemed unavoidably referential.
But, Quine urges us to avoid names altogether as the sources of reference.
Instead, we 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 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 in the interpretation.
We construct our best theory so that everything in the world is in our domain of quantification, and nothing else is.

IV. Universals

Universals are among the entities whose existence philosophers debate.
In DE, Quine discusses appendicitis; in OWTI, Quine focuses on redness.
In both cases, the profligate ontologist thinks there are abstract objects in addition to the concrete objects which have their properties.
There is appendicitis in addition to people and their appendixes.
There is redness in addition to fire engines and apples.
McX accepts that there is a distinction between meaning and naming, but points out that meanings are also universals.
Quine insists that just as we can have red fire engines without redness, we can have meaningful statements without meanings.

If we again turn to Quine's method, we see a way to neatly express the question.
We regiment properties (universals) as predicates.
We interpret predicates as sets of objects in the domain.
So, the predicate 'is red' is interpreted as the set of all red things.
The predicate 'has appendicitis' is taken as the set of all things that have appendicitis.
Quine's method demands sets, but not properties.
There is a set of red things, but there is no redness.
The difference between sets and properties is that sets are extensional: they are determined exclusively by their members, objects in the domain.
If two sets have the same members, they are the same set.
In contrast, properties are not necessarily defined extensionally.
The set of creatures with hearts and creatures with kidneys is extensionally equivalent, they are the same creatures.
But, the property of having a heart is different (intensionally, in terms of meaning) from the property of having a kidney.

Quine's latest posthumous book is called *Confessions of a Confirmed Extensionalist*.

V. Paper Topics

1. What is the ontological status of abstract objects, like numbers or appendicitis? How can we characterize the debate between nominalists and realists? How does Quine's method facilitate the debate? Discuss the role of contextual definition Quine mentions at the end of DE.

2. Are there universals? What is the relationship between the distinction between singular and general statements and the distinction between abstract and concrete terms. Does that relationship help us understand the problem of universals? How does Quine's criterion facilitate the debate? Why does Quine reject meanings, in OWTI, and how does the rejection of meanings relate to the problem of universals?

3. What is the problem of non-existence? Consider the solutions provided by McX and Wyman. How does Quine's approach differ? How does Quine's approach relate to Russell's theory of definite descriptions?

4. What is a name? What is the relationship between naming and quantification? Discuss Quine's dictum, that to be is to be the value of a variable.

Check out the quiz on OWTI:
http://www.jcu.edu/philosophy/gensler/ap/quine-00.htm