Definite Descriptions:
From Symbolic Logic to Metaphysics

Recall that we have been translating definite descriptions the same way we would translate *names*, i.e., with constants (lower case letters towards the beginning of the alphabet). A definite description is a phrase of the sort "the so-and-so," and it apparently refers to a single, definite individual. Since, like a name, it picks out exactly one unique individual, we translate it with a constant, whose job is to do just that.

So, consider the following claims:

Barack Obama is left-handed.

and

The previous president of the United States is left handed.

Since "Barack Obama" and "the previous present president of the United States" both refer to the same unique individual, we could translate either as:

Lb

(Remember that the constant we use is arbitrary, so there is no reason we can't use "b" to translate both "Barack Obama" and "the previous present president of the United States.")

Now consider:

The previous president of the United States is bald.

which we could represent

Bb

Since we know that this statement is false, we know that

~Bb

must be true. And how would we read this second statement? Presumably as:

The previous president of the United States is not bald.

All well and good. Now consider the following example, provided by the early 20th century philosophy Bertrand Russell:

The present king of France is bald.

which, following the above procedure, should be translated

Bk.

Is this statement true or false? (In classical logic, there is no such thing as an "indeterminate" truth value, and so every statement must be considered one or the other.) Well, you might say, since there is presently no king of France, the statement must be false, meaning that

~Bk

must be true. But, again following the same logic as above, this must be read

The present king of France is not bald.

But now we have a problem. If the affirmative claim (that he is bald) is false because there is no present king of France, then the negative claim must be false for the same reason. And that means that both "Bk" and "~Bk" are false, which is impossible.

Bertrand Russell proposes an eminently reasonable solution to this problem, one that we haven't been in a position to describe until we added the identity relation to quantified logic. Definite descriptions, Russell argued, make an implicit existential claim, and to avoid the above problem, we must make this existential commitment explicit. So, as a first move, we need to paraphrase our claim about the lack of royal hair as:

There is something such that it is presently the king of France, and this thing is bald.

But this doesn't quite capture the original statement. The word "the" indicates that there is exactly one individual having the property in question, and so we need to make that explicit also, giving us:

There is exactly one thing that is presently the king of France, and that thing is bald.

Once we add the identity relation to quantified logic, we have a way of capturing "exactly one," and so the above statement gets translated:

$(\exists x)((Kx \bullet \sim(\exists y)(\sim y=x \bullet Ky)) \bullet Bx)$

or

> There is an x which is presently king of France and there is no y which is not identical to x which is presently king of France, and x is bald.

Note, of course, that "The present king of France is **not** bald" becomes

$(\exists x)((Kx \bullet \sim(\exists y)(\sim y=x \bullet Ky)) \bullet \sim Bx)$

and this resolves the problem we noted when we translated the definite description with a constant. Both quantified statements are now false, because the first conjunct in each statement is false. But this does not pose a problem because the two statements are not (like the statements using constants) logical contraries to one another.

Russell's account of definite descriptions, therefore, tells us that "the so-and-so is such and such" should be translated as "There is exactly one thing that so-and-so's, and that thing such-and-such'es."

Well, that's neat, but who really cares? Note that something interesting is going on here: the "structure" of the original statement has changed in the process of this paraphrase. "The present king of France is bald" *looks* like a simple subject-predicate statement, just like "Bob is bald," but what we have effectively said is that this appearance is deceiving. The "surface grammar" of both of these statements is a simple subject-predicate statement, but the "depth grammar" of the first is something different. It is "really" a quantified conjunction. Since what it "looks" like "on the surface" leads to problems, we seem ready to say that its "real" structure, its "depth grammar" is different from its apparent structure, or its "surface grammar." So, it seems, sometimes natural language is not just imprecise, but actually mistaken, or, at the least, misleading. It looks like it becomes the job of philosophically inclined logicians to "clean up" natural language.

O.k., you say again, this is neat, but who cares? Before finishing here, let me discuss briefly an application of Russell's account of definite description in the attempt by another (very famous) 20th century philosopher to tackle a more explicitly philosophical problem: how do we talk meaningfully about non-existence?

In "On What There Is," Willard V. O. Quine tackles the problem of how we can make meaningful claims about existence and non-existence. Consider the claims:

Barack Obama exists.

and

Barack Obama doesn't exist.

These should apparently be translated as:

Eb

and

~Eb.

Each statement says something about the individual named by the constant "b," one attributing to him the property of existence, the other denying it. But consider the second statement. If it is true, then what does "b" refer to? It would seem that if Barack Obama doesn't exist, then there is nothing for "Barack Obama" to refer to. Alternately put, it would seem that in order to deny of something that it exists we are forced to refer to it, thereby implicitly asserting that it *does* exist. As Quine puts it:

> *It would appear, if this reasoning were sound, that in any ontological dispute the proponent of the negative side suffers the disadvantage of not being able to admit that his opponent disagrees with him.*

Before considering Quine's proposed resolution of this problem, we should briefly consider one of the more radical (though elegantly simple) alternatives.

According to Alexius von Meinong, a 19th century Austrian philosopher, the job of noun phrases (i.e., of what we are treating as *logical constants*) is to refer. To say, for example, that *Socrates is bald* is to assert that there is something, referred to by the expression "Socrates" and that this thing has the property of *being bald*. But, Meinong notes, there are plenty of true statements about non-existent objects (e.g., "Pegasus is the winged horse of Greek mythology" and "Santa Claus does not exist."), and so in these cases, the noun phrases must refer to *non-existent objects*! Meinong's solution is, as I said above, "elegantly simple" in that it takes the ontological commitments of subject-predicate statements at face value: The job of noun-phrases is to refer. The solution is "radical" in that it commits us to the "being" of non-existent objects. So, just as

Barack Obama doesn't play polo

commits us to the "being" of (the existent) *Barack Obama*,

Santa Claus doesn't exist

commits us to the "being" of (the non-existent) *Santa Claus.* This gives us an ontology that includes both existent and non-existent objects, including, among the later, *impossible* objects, and *incomplete* objects (e.g., the object referred to by "the golden

mountain," *viz.*, that object which has the properties of being golden and mountainous, but no others—that is, it lacks both the properties of *having-tress-on-it* and *not-having-trees-on-it*!) In sum, if we take the "surface grammar" of "ordinary language" at face value, we end up with a very strange metaphysics.

Quine finds this bloated ontology to be not only "unlovely," but a "slum of disorderly elements." Like Russell, he thinks we are being led astray but taking a statement's "surface grammar" too literally. Just as

The previous president of the United States is left-handed

looks like a simple subject-predicate statement, but actually contains an implicit existential commitment (and so must be understood as an existentially quantified conjunction), the same, we have found is true of

Barack Obama is left-handed.

Quine's proposal is a straightforward application of Russell's proposal regarding definite descriptions. Quine suggests, in effect, that *all* noun phrases contain implicit existential commitments that must be made explicit by treating them, álà Russell, as definite descriptions.

The details here go beyond what we can cover in this class, but the proposal is ultimately to do away with constants in our language. (This is not a proposal for how we should actually *speak*, but only for how we should *understand* what we are saying.) So consider the simple subject-predicate statement

Qa.

The proposal is to treat "a" as equivalent to a definite description such as "the thing which is called 'a'," or maybe even "the 'a-izer'." In that case, "Qa" would be translated

$$(\exists x)((Ax \bullet \sim(\exists y)(\sim y=x \bullet Ax)) \bullet Qx)$$

or "There is exactly one thing that A's, and that thing Q's."

How does this solve our original problem? The problem is that if we understand constants as making ontological commitments, then just as

Barack Obama doesn't play polo

commits us to the existence of the object named by "Barack Obama,"

Pegasus doesn't exist

commits us to the existence of the object referred to by "Pegasus." Quine's solution is to deny that either "Barack Obama" or "Pegasus" functions as a constant, but that both contain implicit definite descriptions in which there is no corresponding constant. Constants, that is, are a feature merely of the "surface grammar" of ordinary language

that does not appear in the ultimate "depth grammar" that expresses our ultimate ontological commitments (i.e., our commitments to what things actually exist). In the end, Quine thinks, it is not *constants* that express ontological commitments, but the class of things referred to by the variables in true existentially quantified statements. In Quine's own words, "To be is to be the value of a bound variable."

And this, dear students, is why philosophers study logic!