

Russell's Theory of Descriptions

I. The problem of improper descriptions.:

- A. The present king of France is bald.
- B. The present king of France is *not* bald.

II. Russell's Elimination of Descriptions

- A. Russell solved this problem about improper descriptions. He asked, in essence, what do we ordinarily think are the conditions under which sentences of the form, "The S is P " are **TRUE**?
- B. Clearly, we think that in order for this sentence to be true, three conditions have to be satisfied:
 - 1. Something is S ,
 - 2. Only one thing is S , and
 - 3. That thing is P .
- C. Russell's idea, in essence, is to ask, suppose the description "the S " is improper, what does that say about these three conditions?
- D. And the answer, of course, is that if this description is improper, then one or the other of the first two conditions must not be satisfied.
- E. So, Russell continues, surely this show that if this description is improper, then the sentence "the S is P " is simply $\perp$, since its truth conditions are not satisfied.
- F. The conclusion is that a sentence such as "The S is P " really has exactly the same truth conditions as the following schema:

$$(\exists x)(Sx.(\forall y)(Sy \supset y = x).Px)$$

III. The Notion of Scope in Russell's Theory of Descriptions

- A. Once we have Russell's analysis of the truth conditions of sentences with descriptions, we see that there is a certain ambiguity in our saying that

The present king of France is *not* bald.

It might be understood as

- 1. It is not the case that there is a unique present king of France who is bald.
or
 - 2. There is a unique present king of France who is not bald.
- B. Intuitively, there is a difference in truth conditions:

1. The first reading does not commit the speaker to the existence or uniqueness of a present King of France; on this reading the statement may be true precisely because there is no present King of France, or because there is more than one.
 2. On the other hand, the second reading does seem to commit the speaker to the existence of a unique present King of France.
- C. One way of capturing this difference is in terms of the relative scopes of the negation sign and the description operator. Thus, we can use Russell's device of writing a description in square brackets in front of a part of the statement in which the description occurs to indicate that the unique existence of the object described has an effect on that part of the statement. For example, the two interpretations we have just looked at may be schematized thus:
1. $\neg[(\iota x)Kx](B(\iota x)Kx)$, here the description has a scope narrower than the negation sign
versus
 2. $[(\iota x)Kx](\neg B(\iota x)Kx)$, here the description has wider scope than the negation sign.
- D. Corresponding to this difference in the scopes of the description, there is a difference in how the description is eliminated.
1. $\neg(\exists x)[Kx.(\forall y)(Ky \supset y = x).Bx]$, the narrow scope elimination
or
 2. $(\exists x)[Kx.(\forall y)(Ky \supset y = x). \neg Bx]$, the broad scope elimination.
- E. Here is another schema in which the description can have two scopes
- $$(\forall x)(Fx \supset G(\iota y)(Hy)x)$$
1. $(\exists y)[Hy.(\forall z)(Hz \supset y = z).(\forall x)(Fx \supset Gyx)]$
 2. $(\forall x)[Fx \supset (\exists y)(Hy.(\forall z)(Hz \supset y = z).Gyx)]$
- F. What's the difference?
1. Suppose nothing is H , i.e., $\text{ext}H = \emptyset$, then (1) is $\perp$.
 2. But suppose that, at the same time that $\text{ext}H = \emptyset$, $\text{ext}F = \emptyset$, then (2) is $\top$.

IV. Multiple descriptions.

Consider

$$L(\iota x)(Fx)(\iota x)(Gx)$$

How can we eliminate these descriptions?

- A. We begin by eliminating $(\iota x)Fx$:

$$(\exists x)(Fx.(\forall y)(Fy \supset y = x).Lx(\iota x)(Gx))$$

1. $(\exists x)[Fx.(\forall y)(Fy \supset y = x).(\exists z)(Gz.(\forall w)(Gw \supset w = z).Lxz)]$
2. $(\exists z)[Gz.(\forall w)(Gw \supset w = z).(\exists x)(Fx.(\forall y)(Fy \supset y = x).Lxz)]$

- B. But these two are equivalent.