

## Russell's Theory of Descriptions

'The  $F$  is  $G$ ' has three components:

### Existence

At least one thing is  $F$ .  $\exists x Fx$

### Uniqueness

At most one thing is  $F$ .  $\forall x \forall y ((Fx \wedge Fy) \rightarrow y = x)$

### Predication

Whatever is  $F$  is  $G$ .  $\forall x (Fx \rightarrow Gx)$

Equivalently, to say that the  $F$  is  $G$  is to say that there exists something,  $x$ , satisfying these three conditions:

$Fx$

$\forall y (Fy \rightarrow y = x)$

$Gx$

### English sentence

The father of Charles II was executed.

### In logical notation, according to Russell's Theory

$\exists x (x \text{ begat } c \wedge \forall y (y \text{ begat } c \rightarrow y = x) \wedge x \text{ was executed})$

### Which means, literally

There is an  $x$  such that (1)  $x$  begat  $c$ , and (2) for any  $y$ ,  $y$  begat  $c$  only if  $y = x$ , and (3)  $x$  was executed.

### Or, equivalently

Exactly one person begat  $c$ , and that person was executed.