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 \( F \).

\[ \forall x \forall y \, ((Fx \land Fy) \rightarrow y = x) \]

**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**

\[ \exists x \, (x \text{ begat } c \land \forall y \,(y \text{ begat } c \rightarrow y = x) \land x \text{ was executed}) \]

**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.