Bertrand Russell’s Theory of Descriptions
FREGÉ’S BASIC LAW 5

For any concepts, $F$ and $G$, the extension of $F$ is identical to the extension of $G$ if and only if for every object $a$, $Fa$ if and only if $Ga$.

A CONSEQUENCE/PRESUPPOSITION

Every concept $F$ has an extension.
RUSSELL’S PARADOX (v2)

“…there is no class (as a totality) of those classes which, each taken as a totality, do not belong to themselves.”

—Russell, 1902 letter to Frege
RUSSELL VS. FREGE: SENSE

• Frege argues that there are two layers of meaning, sense and reference. The sense of an expression is our mode of presentation of the referent, and mediates between the expression and the referent.

• Russell denies all of this. He thinks that expressions only have referents, and
RUSSELL VS. FREGE: SENTENCE MEANING

- Both agree that there are things (thoughts/propositions) that are the public contents of our thoughts, the things we communicate, the things that are true or false, etc.

- Frege thinks of these as the senses of sentences, which are made up of the senses of sentence parts. Senses are modes of presentation. The referent of a sentence is just its truth value.

- Russell disagrees. He thinks that sentences refer to propositions, and that propositions are made up of the referents of the sentence parts.
Frege, in a 13 November, 1904 Letter to Russell:

“Mont Blanc with its snowfields is not itself a component part of the thought that Mont Blanc is more than 4,000 metres high. ... The sense of the word ‘Moon’ is a component part of the thought that the moon is smaller than the earth. The moon itself (i.e. the Bedeutung of the word 'Moon' is not part of the sense of the word ‘Moon’; for then it would also be a component part of a thought.”
Russell's Reply, on 12 December 1904:

“I believe that in spite of all its snowfields Mont Blanc itself is a component part of what is actually asserted in 'Mont Blanc is more than 4,000 metres high'. We do not assert the thought, for this is a private psychological matter: we assert the object of the thought, and this is, to my mind, a certain complex (an objective proposition, one might say) in which Mont Blanc is itself a component part. If we do not admit this, then we get the conclusion that we know nothing at all about Mont Blanc. This is why for me the Bedeutung of a proposition is not the true, but a certain complex which (in the given case) is true.”
AN INFLUENTIAL IDEA:
GRAMMatical vs. LOGICAL FORM

• The surface structure of a sentence may mislead us as to its underlying “logical form”.

• The structure relevant to the way word meanings combine into sentence meanings is logical form, not surface structure.

• Part of the job of a philosopher/linguist is to discover the underlying logical forms of sentences.

• This is not only required to do semantics, it can help dispel other philosophical confusions.
Denoting Phrases

“By a “denoting phrase” I mean a phrase such as any one of the following: a man, some man, any man, all men, the present King of England, the present King of France, the centre of mass of the Solar System at the first instant of the twentieth century, the revolution of the earth around the sun, the revolution of the sun around the earth.”

“On Denoting”, p. 479
Denoting Phrases

“Thus a phrase is denoting solely in virtue of its form. We may distinguish three cases: (1) A phrase may be denoting, and yet not denote anything; e.g., “the present King of France”. (2) A phrase may denote one definite object; e.g., “the present King of England” denotes a certain man. (3) A phrase may denote ambiguously; e.g., “a man” denotes not many men, but an ambiguous man.

‘On Denoting’, p. 479
A definite description is a singular noun phrase that begins with the word “the”—e.g.:

(1) the current president of Hunter College

Frege assimilated definite descriptions to proper names. For example, he would say that (1) has the same referent as the name, “Jennifer Raab”, although it has a different sense.

Russell disagrees. He thinks that definite descriptions work more like other denoting phrases (e.g., ‘a man’), which are very different than proper names (though they seem to occupy the same grammatical positions.).
PUZZLES

• sentences containing non-denoting descriptions are meaningful; they may be either true or false:
  ‣ I have met the present king of France.

• Substitution puzzles:
  ‣ ‘George IV wanted to know whether Scott was the author of Waverly’ (but not whether Scott was Scott)

• Negative existentials:
  ‣ ‘The present king of France does not exist.’
I take the notion of the variable as fundamental; I use "C(x)" to mean a proposition [More exactly, a propositional function] in which \( x \) is a constituent, where \( x \), the variable, is essentially and wholly undetermined.

A propositional function is a proposition with a gap that can be filled by various things to yield various propositions, some true and some false.

Propositional functions are true of some things and false of others.

E.g., If we put Jay Z into the gap in the propositional function, “x loves Beyoncé”, we get a true proposition, but if we put Trump into the gap, we get a false proposition.
I take the notion of the variable as fundamental; I use \( C(x) \) to mean a proposition [More exactly, a propositional function] in which \( x \) is a constituent, where \( x \), the variable, is essentially and wholly undetermined.

Compare the following propositional function:

\[
x + 5 = 12
\]

If we plug in 7 for \( x \), then we get a true proposition.

But if we plug in any other number for \( x \), we get a false proposition.
RUSSELL’S ANALYSIS OF DENOTING PHRASES

Then we can consider the two notions “C(x) is always true” and “C(x) is sometimes true”. Then everything and nothing and something (which are the most primitive of denoting phrases) are to be interpreted as follows:

C(everything) means “C(x) is always true”;

\( (\forall x)Cx \)

C(nothing) means “‘C(x) is false’ is always true”;

\( (\forall x)\neg Cx \)

C(something) means “It is false that ‘C(x) is false’ is always true”.

\( \neg(\forall x)\neg Cx \) or: \( (\exists x)Cx \)
RUSSELL’S ANALYSIS OF DENOTING PHRASES

Suppose now we wish to interpret the proposition, “I met a man”. If this is true, I met some definite man; but that is not what I affirm. What I affirm is, according to the theory I advocate:—

“‘I met x, and x is human” is not always false”.

\[\neg \forall x \neg (\text{I met } x \text{ and } x \text{ is human}) \quad \neg \forall x \neg (Mx \land Hx)\]

\[\exists x (\text{I met } x \text{ and } x \text{ is human}) \quad \exists x (Mx \land Hx)\]
RUSSELL’S ANALYSIS OF DENOTING PHRASES

Generally, defining the class of men as the class of objects having the predicate human, we say that:

“C(a man)” means “‘C(x) and x is human’ is not always false”.

\[
\neg(\forall x)(\neg Cx \text{ and } x \text{ is human})
\]

\[
(\exists x)(C(x) \text{ and } x \text{ is human})
\]

This leaves “a man,” by itself, wholly destitute of meaning, but gives a meaning to every proposition in whose verbal expression “a man” occurs.
“INCOMPLETE SYMBOLS”

When we reveal the logical form of ‘a human is tall’, there is no single word or phrase that translates ‘a man’:

‘a human is tall’

‘the following propositional function is true of at least one thing: x is human and x is tall’
DEFINITE DESCRIPTIONS

Thus "the father of Charles II was executed" becomes:

“It is not always false of x that x begat Charles II. and that x was executed and that 'if y begat Charles II, y is identical with x' is always true of y”.

\[
\neg (\forall x) \neg (x \text{ begat Charles II and } x \text{ was executed and } (\text{if } y \text{ begat Charles II then } y = x))
\]

\[
(\exists x) (x \text{ begat Charles II and } x \text{ was executed and } (\text{if } y \text{ begat Charles II then } y = x))
\]
DEFINITE DESCRIPTIONS

Thus "the father of Charles II was executed" becomes:—

"It is not always false of x that x begat Charles II. and that x was executed and that 'if y begat Charles II, y is identical with x' is always true of y".

There is exactly one thing that satisfies the following propositional function:

   x begat Charles II

and that same thing also satisfies the following propositional function:

   x was executed
“INCOMPLETE SYMBOLS”

When we reveal the logical form of ‘the F is G’, there is no single word or phrase that translates ‘the F’:

‘The F is G’

\[ G(\text{the } F) \]

‘There exists an x which is both F and G and it is the only F.’

\[ (\exists x)(Fx \& Gx \& (\forall y)(Fy \supset y=x)) \]
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KNOWLEDGE

OF THINGS

BY ACQUAINTANCE

• Direct, unmediated awareness of an object.
• This kind of knowledge is the foundation of all other kinds
• Knowledge of this kind is infallible.

OF TRUTHS

BY DESCRIPTION

• Always knowledge of the such-and-such.
• Indirect, mediated by knowledge that the such-and-such exists.
• Ultimately grounded in knowledge by acquaintance.
RUSSELL’S PRINCIPLE OF ACQUAINTANCE

“Every proposition which we can understand must be composed wholly of constituents with which we are acquainted.”

The Problems of Philosophy, ch.5
RUSSELL’S PRINCIPLE OF ACQUAINTANCE

“Thus when, for example, we make a statement about Julius Caesar, it is plain that Julius Caesar himself is not before our minds, since we are not acquainted with him. We have in mind some description of Julius Caesar: 'the man who was assassinated on the Ides of March', 'the founder of the Roman Empire', or, merely 'the man whose name was Julius Caesar'. ... Thus our statement does not mean quite what it seems to mean, but means something involving, instead of Julius Caesar, some description of him which is composed wholly of particulars and universals with which we are acquainted.”

The Problems of Philosophy, ch.5
Things with which we can be acquainted (according to Russell):

• Sense-data
• Our own (conscious) thoughts and experiences
• At least some universals (sensible qualities)
• Ourselves?