

# Mind, Matter and Language

Philosophy of Language

**Russell's Theory of Descriptions**



THE UNIVERSITY  
*of* EDINBURGH

## Outline

Denoting Phrases  
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Problems and Puzzles

Russell's Solutions

Objections



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## Denoting Phrases

- In the very first paragraph of 'On Denoting', Russell writes:

*By a "denoting phrase" I mean a phrase such as any one of the following: 'a man', 'some man', 'any man', 'every 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 round the sun', 'the revolution of the sun round the earth'. Thus a phrase is denoting solely in virtue of its form.*

*(Russell 1905: 479)*



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*(Russell 1905: 479)*



## Denoting Phrases (cont.)

- In other words, according to Russell, expressions such as those below belong to a distinguished group.
  - Some F
  - Every F
  - No F
  - Five Fs
- These expressions are today generally referred to as 'determiner phrases', 'quantifier phrases', or simply 'quantifiers'. I use these interchangeably in these lectures.



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## Acquaintance and Description

- Russell draws an intuitive distinction between *knowledge by acquaintance* and *knowledge by description*.
- **Knowledge by acquaintance** requires acquaintance with the object(s) to which the knowledge pertains, for example perceptual acquaintance.
- **Knowledge by description** requires only knowing a way to describe the relevant object.
  - (a) For example, you (now) know by *acquaintance* that I have a beard.
  - (b) But you (probably) only know by *description* that some Russian spy lives in the US.
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## Descriptions and Reference

- Consider the sentence below.
  - (1) A dog barked today.
- It is tempting to think that the denoting phrase ‘a dog’ functions like a name, i.e. that it refers to specific dog. If so, (1) above would be true iff that specific dog is in the set of individuals that barked today.
- But there are reasons to think that this cannot be the right analysis.
  - Intuitively, what is required for (1) to be true is simply that *some dog or other* barked today. Not that any *specific* dog barked.
  - Notice, a sentence such as ‘Fido barked and Fido did bark’ is intuitively a contradiction. Yet there is nothing contradictory about ‘a dog barked and a dog did not bark’.



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## The Meaning Denoting Phrases

- Russell proposes the following analysis (in the formulas below ‘C’ is an arbitrary predicate, e.g. ‘barks’ or ‘is a dog’):
  - C(everything) means “C(x) is always true”
  - C(nothing) means “‘C(x) is false’ is always true”
  - C(something) means “It is false that ‘C(x) is false’ is always true”
- In other words:
  - ‘Everything is C’ means  $\forall xC(x)$
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- **In less technical terms:**
  - ‘Everything is  $C$ ’ is true iff for everything there is, it is  $C$ .
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- Or equivalently:
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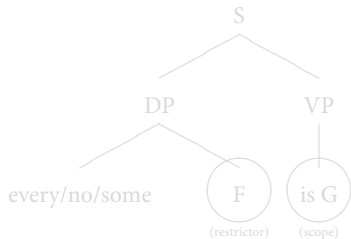
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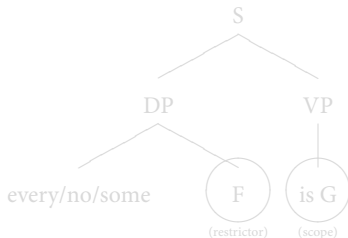
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- In these examples, the sentences appear to still have essentially a subject–predicate structure.
- That is, it looks as if the sentence ‘Everything is C’ consists of a predicate (‘C’), and an argument (‘everything’), but things are slightly more complicated.
- Syntactically, words such as ‘every’, ‘no’, and ‘some’ combine with *two* arguments: a **restrictor** and a **scope**.



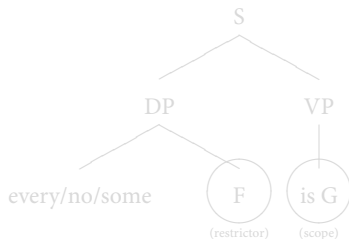
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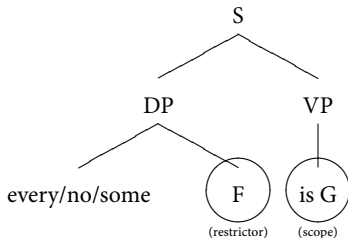
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## The Meaning of Denoting Phrases (cont.)

- So, the analysis of 'every', 'no', and 'some' is slightly more complicated:
  - 'Every F is G' is true iff  $\forall x(F(x) \rightarrow G(x))$
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- Or equivalently:
  - 'Every dog barks' is true iff for everything, if it's a dog, it barks.
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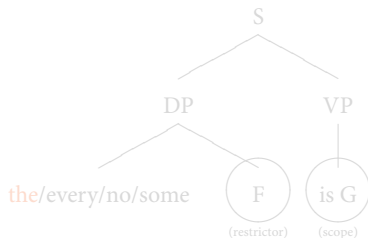
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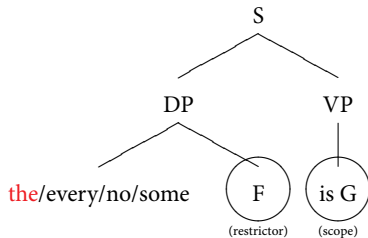
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- So, the meaning of 'the F' should be similar in some relevant way to the meanings of 'every F', 'no F', and 'some F'. Russell thus proposes:

- 'The F is G' is true iff  $\exists x(F(x) \wedge \forall y(F(y) \rightarrow x = y) \wedge G(x))$

- Or equivalently:

- 'The F is G' is true iff (a) there is an individual  $x$  who is F, (b) there is at most one individual  $x$  who is F, and (c)  $x$  is G.



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Denoting Phrases

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    - b. There is an  $x$  who is F and there is only  $x$  who is F and  $x$  is G.
- (2) may appear to consist of a subject ('the F') and a predicate ('is G'), but according to Russell, at the level of logical form, the structure of (2) is really (2a).
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## Outline

Denoting Phrases

Problems and Puzzles  
 Non-Denoting Descriptions  
 Puzzles

Russell's Solutions

Objections



THE UNIVERSITY  
*of* EDINBURGH

## Nonsense vs. Falsity

- Just as 'an F' or 'some F' is naturally interpreted as a referential term, so one might think that 'the F' is a referential term. However:

*If we say "the King of England is bald," that is, it would seem, not a statement about the complex meaning "the King of England," but, about the actual man denoted by the meaning. But now consider "the [present] King of France is bald". By parity of form, this also ought to be about the denotation of the phrase "the [present] King of France". But this phrase, though it has a meaning provided "the King of England" has a meaning, has certainly no denotation, at least in any obvious sense. Hence one would suppose that "the [present] King of France is bald" ought to be nonsense; but it is not nonsense, since it is plainly false. (Russell, 1905, 483-484)*



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- In other words, according to Russell, a theory of the meaning of (3) should predict that it is false rather than neither true nor false.
  - (3) The king of France is bald.
- Russell also observes (somewhat obscurely) that some sentences with non-denoting descriptions can nevertheless be true, e.g. (4).
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**P1. Substitution and Propositional Attitudes**

If two terms refer to the same individual, substituting those terms in a sentence should not make any difference to the truth value.

- But consider the attitude report in (5):

(5) George IV wished to know whether Scott was the author of *Waverley*.

- This obviously differs in meaning from the sentence in (6).

(6) George IV wished to know whether Scott was Scott.

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### P2. Law of Excluded Middle

The Law of Excluded Middle (LEM) is the logical principle that for any sentence  $S$ , either  $S$  is true or its negation is. In other words, there is no middle ground.

- Intuitively, LEM seems quite plausible. Consider, for example, (7).

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(8) The king of France is bald.

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### P3. Negative Existentials

*Consider the proposition “A differs from B”. If this is true, there is a difference between A and B, which fact may be expressed in the form “the difference between A and B subsists”. But if it is false that A differs from B, then there is no difference between A and B, which fact may be expressed in the form “the difference between A and B does not subsist”. But how can a non-entity be the subject of a proposition?*

*(Russell, 1905, 485)*



## Three Puzzles (cont.)

- Suppose, again, that definite descriptions are referential terms. If so, how come it is possible to use definite descriptions to assert non-existence?
  - (9) The king of France does not exist.
- (9) seems intuitively true, but if definite descriptions are referential terms, it would seem that for (9) to be true, the referent of 'the king of France' must be such that he is not among the things that exist?
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Denoting Phrases

Problems and Puzzles

**Russell's Solutions**

Puzzle 1

Puzzle 2

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Frege's Puzzle

Objections



THE UNIVERSITY  
*of* EDINBURGH

## Puzzle 1: De Dicto vs. De Re

- Russell's first puzzle concerned the contrast between (5) and (6).
  - (5) George IV wished to know whether Scott was the author of *Waverley*.
  - (6) George IV wished to know whether Scott was Scott.
- Russell's solution is to analyze 'the author of *Waverley*' as a denoting phrase rather than a referential term:
  - That is, what George IV wants to know in (5) is whether there is a unique  $x$  such that  $x$  is the author of *Waverley* and whether  $x$  is identical to Scott.
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- Consider the sentence in (10)

(10) Mary believes that the president of the United States is a Harvard graduate.

- There are two distinct scenarios in which it seems that (10) could be truthfully asserted.
  - **Scenario 1:** Mary knows Donald Trump and believes that *he* graduated from Harvard. However, Mary is unaware that Trump is the president of the United States.
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- But notice also the following contrast:

(11) Mary believes that the president of the United States is a Harvard graduate.

(12) Mary believes that *he* is a Harvard graduate.

- The sentence in (12) does not have the two interpretations mentioned above. Since *he* is plausibly a referential term, it shows that if descriptions were also referential terms, we shouldn't expect the sentence to have these two distinct interpretations.
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- Remember, according to Russell, a sentence such as (13) really should be analyzed as (13a).

(13) The president of the United States is a Harvard graduate.

a.  $\exists x(\text{President}(x) \wedge \forall y(\text{President}(y) \rightarrow x = y \wedge \text{Harvard-graduate}(x)))$

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- Second, it may have the logical form in (11b) representing a **de re** belief:

(11) b.  $\exists x(\text{President}(x) \wedge \forall y(\text{President}(y) \rightarrow x = y \wedge \text{Mary believes: Harvard-graduate}(x)))$  (de re)

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- Russell observed that when definite descriptions are analyzed as referential terms, a sentence such (8) is neither true nor false.

(8) The king of France is bald.

- However, given Russell's analysis of definite descriptions, this problem is avoided. Remember, according to Russell, the proper analysis of (8) is (8a).

(8) a.  $\exists x(\text{KoF}(x) \wedge \forall y(\text{KoF}(y) \rightarrow x = y) \wedge \text{bald}(x))$

- The sentence in (8a) expresses a conjunction and a conjunction is true if and only if all of its conjuncts are true. If any conjunct is false, the whole conjunction is false.



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- Given this, notice now that on Russell's analysis of (8), it is false (rather than neither true nor false), because it expresses a false conjunction!

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- That is, it expresses the conjunction that:

- There is a king of France ( $\Leftarrow$  false)
- There is at most one king of France.
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- This means that Russell's analysis can now also explain why sentences such as (14) are necessarily true.

(14) The king of France is bald or the king of France is not bald.

- Remember, for a disjunction, i.e. (14), to be true, one of its disjuncts must be true. And, given Russell's analysis, the logical form of (14) is (14a):

$$(14) \text{ a. } \exists x(\text{KoF}(x) \wedge \forall y(\text{KoF}(y) \rightarrow x = y) \wedge \text{bald}(x)) \vee \neg \exists x(\text{KoF}(x) \wedge \forall y(\text{KoF}(y) \rightarrow x = y) \wedge \text{bald}(x))$$

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## Puzzle 3: Negative Existentials

- Russell's third puzzle concerned so-called negative existential statements involving definite descriptions, e.g. (9).

(9) The king of France does not exist.

- The puzzle is how to explain that this sentence is true and Russell's analysis provides a very simple explanation.
- The logical form of (9) is simply (9a).

(9) a.  $\neg \exists x(\text{KoF}(x) \wedge \forall y(\text{KoF}(y) \rightarrow x = y))$

- Translated into English:

(9) b. It's not the case that there is a king of France and that there is at most one king of France.



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## Frege's Puzzle?

- Russell's analysis of descriptions clearly provides a number of advantages over Frege's analysis, but what about Frege's Puzzle?
- Remember, Frege's Puzzle is a problem about the meaning of *names*, namely explaining the cognitive difference between sentences such as (15) and (16).
  - (15) Bob Dylan is Bob Dylan
  - (16) Bob Dylan is Robert Zimmerman
- But since Russell's theory is about *definite descriptions*, how is Russell's analysis supposed to deal with these cases?



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- Remember, Frege's Puzzle is a problem about the meaning of *names*, namely explaining the cognitive difference between sentences such as (15) and (16).
  - (15) Bob Dylan is Bob Dylan
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## Frege's Puzzle? (cont.)

- In response to this problem, Russell proposes the following solution:

*The whole realm of non-entities, such as “the round square,” “the even prime other than 2,” “Apollo,” “Hamlet,” etc., can now be satisfactorily dealt with. All these are denoting phrases which do not denote anything. A proposition about Apollo means what we get by substituting what the classical dictionary tells us is meant by Apollo, say “the sun-god”. (Russell, 1905: 491)*

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## Frege's Puzzle? (cont.)

- Russell's idea seems to be the following: For any name, there is some associated description.
- Typically, this will be a uniquely identifying description concerning something that the individual is known for, e.g.
  - 'Plato'  $\Rightarrow$  'the author of *The Republic*' ( $\Rightarrow$  = is shorthand for)
  - 'Aristotle'  $\Rightarrow$  'the teacher of Alexander the Great'
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## Outline

Denoting Phrases

Problems and Puzzles

Russell's Solutions

Objections

Presupposition

Incomplete Descriptions

Compositionality



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## Asserting Existence vs. Presupposing Existence

- The perhaps most famous objection to Russell's analysis comes from P. F. Strawson:

*Now suppose some one were in fact to say to you with a perfectly serious air: "The king of France is wise". Would you say, "That's untrue"? I think it's quite certain that you wouldn't. But suppose he went on to ask you whether you thought that what he had just said was true, or was false; whether you agreed or disagreed with what he had just said. I think you would be inclined, with some hesitation, to say that you didn't do either; that the question of whether his statement was true or false simply didn't arise, because there was no such person as the king of France. You might, if he were obviously serious (had a dazed astray-in-the-centuries look), say something like: "I'm afraid you must be under a misapprehension. France is not a monarchy. There is no king of France." (Strawson, 1950, 330)*



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## Assertion vs. Presupposition (cont.)

- Strawson's point is this:
  - On Russell's analysis, 'The F is G' *asserts* the existence of a unique F. This is part of the **logical form** of the sentence.
  - But 'The F is G' seems to simply presuppose the existence of a unique F — or at least the speaker seems to presuppose this when asserting 'The F is G'.
- Strawson's proposed presuppositional view explains a range of facts about uses of 'the F' in discourse. For example, it's not generally acceptable to use 'the F' in a conversation unless it's commonly known that there is a unique F.





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- For example, suppose I start a conversation with you by asserting (17):  
(17) #I discovered that the man with a pink hat in the DSB walked into a bar.
- There is something weird about starting a conversation in this way. For example, a natural response to this would be ‘what man?’
- By contrast, there is nothing weird about starting a conversation as follows:  
(18) I discovered that there is a man with a pink hat in the DSB and that he walked into a bar.
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## Assertion vs. Presupposition (cont.)

- But this issue is more complicated than it might immediately seem.
- While Strawson might be right about 'the king of France is bald' being neither true nor false, many people intuitively judge the following sentences false.

(19) Who owns this pen?

The king of France owns that pen.

(20) You say you had dinner with a famous person last night. Who was it?  
I had dinner with the king of France.

(21) Name just one important climate change denier!  
Well, the king of France is a climate change denier.



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- That said, many researchers today agree with Strawson's main point that descriptions presuppose rather than assert existence, but maintain that these kinds of judgments about when a sentence is **false** vs. **neither true nor false** are not reliable.



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## Denying the Uniqueness Assumption

- On Russell's analysis of 'the F is G', the sentence is true iff there is exactly one thing in the world that is F.
- However, this seems clearly problematic. There are numerous contexts in which a speaker could intuitively assert e.g. the following sentences truthfully.
  - (22) I parked **the car** in **the garage**.
  - (23) I met **the dean of admissions** at **the graduation party**.
- Yet, there is not just one car, one garage, one dean of admissions nor one graduation party in the world.
- So, one might conclude that Russell's uniqueness condition should be relinquished.





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## Contextual Domain Restrictions

- There are, however, reasons not to be particularly worried about this objection to Russell's analysis. Consider the following sentences.

(24) Every bottle broke.

(25) Most students passed.

(26) Many professors complained.

- The domains that these quantifier phrases (denoting phrases) quantify over must be contextually restricted in order to get the right truth-conditions.
- So, Russell could argue that exactly the same is the case for sentences involving definite descriptions.

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## Revisionary Syntax and Compositionality

- On Russell's analysis of 'the F is G', the surface form of the sentence is entirely different from its logical form
  - (2) The F is G.
    - a.  $\exists x(F(x) \wedge \forall y(F(y) \rightarrow x = y) \wedge G(x))$
- Indeed, according to Russell, the sentence in (2a) simply has no logical/grammatical subject, but the sentence in (2) intuitively does.



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- This raises two distinct worries for Russell's analysis.
- First, how is the logical form related to the surface structure? That is, how is one supposed to derive the logical form from the surface structure?
- Second, on Russell's analysis, 'the' does not have any meaning in isolation. In technical terms, it is *syncategorematic*. That is, we cannot state the meaning of 'the' without considering it in a sentence.
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