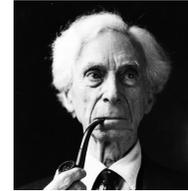




## The man

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### BERTRAND RUSSELL



- Born into aristocracy in Wales, 1872
- Studied mathematics, then philosophy at Cambridge
- Spent a fair amount of his career at Cambridge, with a stint in the USA (Chicago, UCLA); worked for many years as an independent
- Prolific writer, including of pieces aimed at general public (> 70 books & 2000 articles on topics including education politics, religion and morality; Nobel Prize for Literature, 1950)
- Politically active public figure: ran for parliament, high profile anti-war campaigner
- Passed away in Wales, 1970

## His work

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- Whilst Moore can be credited for popularising a respect for common sense and interest in ordinary language usage, Russell played a key role in the adoption of **logical methods**
- Huge influence in logic, philosophy of language, philosophy of mathematics, metaphysics and, to a lesser extent, epistemology
- His four possibly most significant philosophical contributions:
  - (1) His **theory of descriptions**
  - (2) His view of **material objects as logical constructions** out of sense data
  - (3) His general picture of the relation between language and world (**Logical Atomism**), a project also pursued by Wittgenstein
  - (4) His attempted **reduction of arithmetic to logic**

## His work (ctd.)

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- We'll cover the first two contributions, via a reading of:
  - Ch. 16 of *Introduction to Mathematical Philosophy* (this week)
  - Ch. 3 of his *Our Knowledge of the External World as a Field for Scientific Method in Philosophy* (next week)
- Today: the theory of descriptions

## MEANING, DENOTATION AND NOUN PHRASES

## Meaning as denotation

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- A natural view:

The meaning of a sentence is determined by (a) the meaning of the words/ expressions it contains and (b) the way these words / expressions are arranged
- A further natural view: the **referential theory of meaning** (RTM)

The meaning of a word / expression is the thing in the world it denotes or stands for
- RTM is clearly not true of *all* words / expressions. Consider:
  - articles and quantifiers ('the', 'every', etc.)
  - adverbs ('very', 'meanwhile', etc.)
  - logical connectives ('or', 'and', etc.)

## RTM and noun phrases

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- But perhaps RTM does apply to *some* words / expressions
- Perhaps plausible: predicate adjectives have meaning by virtue of denoting a property (see last week)
- Also perhaps plausible: **noun phrases** (Russell: 'denoting phrases') have meaning by virtue of denoting one or more objects
  - proper nouns ('Peppa', 'Daddy Pig', etc.)
  - demonstrative pronouns ('this', 'that', etc.)
  - quantified nouns / indefinite pronouns ('every car', 'nothing', etc.)
  - indefinite descriptions ('some small horse', 'a day out', etc.)
  - definite descriptions ('the headmaster', 'the universe', etc.)

## RTM and indefinite noun phrases

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- But this too seems implausible, at least wrt *indefinite pronouns* and *quantified nouns*
- Consider

'Everything is funny' or 'Every man is an island'  
'Nothing makes sense' or 'No road is paved with gold'  
'Something is wrong' or 'Some zoos are too small'
- But if these noun phrases don't contribute to the meaning of a sentence by denoting something, how *do* they so contribute?

## Propositional functions

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- Russell proposes to answer the question by means of the concept of **propositional function**
- Think of a propositional function as an abstract device that takes as an input *a sequence of objects* and outputs a *declarative sentence* with a definite truth value
- We can represent it by means of a sentence that figures 'undetermined constituents' (dummy variables):
  - ' $x$  went to the swimming pool with  $y$  on Monday'
  - ' $x$  fell down the stairs today'
- Depending on the values that we assign to  $x$  and  $y$ , we obtain different sentences with potentially different truth values

## Propositional functions and indefinite noun phrases (ctd)

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- With the sentences suitably analysed, the relevant noun phrase disappears

## Propositional functions and indefinite noun phrases

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- Russell thinks that the **grammatical form** of sentences that include indefinite pronouns is misleading with respect to the **logical form** of the propositions they express
- An analysis of this logical form reveals them as saying something about a propositional function:
  - 'Everything is funny'  $\Rightarrow$  ' $x$  is funny' is always true'  
(in formal notation: ' $\forall x(Fx)$ ')
  - 'Nothing makes sense'  $\Rightarrow$  ' $x$  does not make sense' is always true'  
(in formal notation: ' $\forall x(\neg Sx)$ ')
  - 'Something is wrong'  $\Rightarrow$  'It is false that ' $x$  is not wrong' is always true'  
(in formal notation: ' $\neg \forall x(\neg Wx)$ ')

## THE CASE OF DEFINITE DESCRIPTIONS

## RTM and definite descriptions

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- Ok, well what then of *definite* noun phrases and in particular *definite descriptions*?
- The view that RTM applies to these turns out to be implicated in various **paradoxes** (sets of individually plausible but collectively inconsistent claims)
- We'll just discuss what I take to be the two fundamental ones

## Paradox 2: Substitution of co-referring expressions

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- (1) The meaning of a definite description is given by its denotation and hence is inter-substitutable with any co-referring definite description in any sentence without changing the latter's meaning
- (2) 'the author of *Ivanhoe*' and 'the author of *Waverley*' are co-referring
- (3) The following two sentences do not have the same meaning:
  - 'George IV wished to know whether the author of *Ivanhoe* was the author of *Waverley*.' (true)
  - "George IV wished to know whether the author of *Ivanhoe* was the author of *Ivanhoe*." (false)

## Paradox 1: Failure of reference

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- (1) The meaning of a definite description is given by its denotation and hence a sentence containing a definite description that fails to refer is meaningless
- (2) 'The golden unicorn' does not refer to something that exists
- (3) If an expression does not refer to something that exists, then it does not refer to anything at all (it fails to refer)
- (4) The sentence below is meaningful
  - 'The golden unicorn roams the hills of Bundoora'

## The Meinongian line

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- Regarding the 1<sup>st</sup> paradox, one could perhaps deny (3): a singular expression can refer to something that does not exist
- Meinong famously took this view
- The claim: *there are* golden unicorns, but they *don't exist*
- For reasons that aren't spelled out, Russell seems to think that this leads to inconsistency:
  - 'such [non-existent] objects, admittedly, are apt to infringe the law of contradiction. It is contended, for example, that the existent present King of France exists, and also does not exist' (Russell 1905)

## The Meinongian line (ctd)

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- Another line: deny (2), claiming that golden unicorns do exist but exist in heraldry, fiction or the popular imagination
- Russell isn't too impressed by this either:

'Logic, I should maintain, must no more admit a unicorn than zoology can; for logic is concerned with the real world just as truly as zoology... To say that unicorns have an existence in heraldry, or in literature, or in imagination, is a most pitiful and paltry evasion. What exists in heraldry is not an animal, made of flesh and blood, moving and breathing of its own initiative. What exists is a picture, or a description in words.' (Russell 1905)
- In any case, none of this helps with the 2<sup>nd</sup> paradox

## RUSSELL'S SOLUTION TO THE PARADOXES

## Russell's analysis of definite descriptions

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- According to Russell, as with indefinite noun phrases, definite descriptions 'disappear' in the logical structure of the sentence
- He solves both paradoxes by denying statement (1) (that the meaning of a def. descr. is given by its denotation)
- For Russell, 'The  $F$  is  $G$ ' is equivalent to the conjunction of 3 distinct claims that can each be analysed in terms of propositional functions
- First, an **existence** claim: 'Something is  $F$ '

Analysed as: 'It is false that ' $x$  is not  $F$ ' is always true'  
In formal notation:  $\neg\forall x(\neg Fx)$

## Russell's analysis of definite descriptions (ctd)

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- Second, a **uniqueness** claim: 'At most one thing is  $F$ '

Analysed as: 'If  $x$  is  $F$  and  $y$  is  $F$ , then  $x$  and  $y$  are identical' is always true'  
In formal notation:  $\forall x\forall y((Fx\&Fy) \rightarrow x = y)$
- Finally, a **universality** claim: 'All  $F$ s are  $G$ s'

Analysed as: 'If  $x$  is  $F$ , then  $x$  is  $G$ ' is always true'  
In formal notation:  $\forall x(Fx \rightarrow Gx)$

## Russell's analysis of definite descriptions (ctd)

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- Technical note: we have formally represented Russell's analysis as follows

$$(\neg\forall x(\neg Fx)) \ \& \ (\forall x\forall y((Fx\&Fy) \rightarrow x = y)) \ \& \ (\forall x(Fx \rightarrow Gx))$$

This is equivalent to the following alternative, more commonly found, formulation

$$\exists x(Fx\&Gx\&(\forall y(Fy \rightarrow y = x)))$$

## The excluded middle

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- Recall the sentence mentioned in the first paradox:

'The golden unicorn roams the hills of Bundoora'

- Clearly, it does not express a true proposition
- Russell's analysis commits him to saying that it is untrue because *false*, since the relevant existence claim is false
- Now if this is so, then, by the **law of the excluded middle** (either  $P$  is true or  $\neg P$  is), the following should be *true*:

'It isn't the case that the golden unicorn roams the hills of Bundoora'

- But this sentence *also* does not seem true

## The excluded middle (ctd)

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- Russell argues that the sentence is **ambiguous**: there are two possible candidate underlying propositions, one true, one false
- We take the sentence to not express a true proposition when we interpret it as being synonymous with

'Something is a golden unicorn and at most one thing is a golden unicorn and anything that is a golden unicorn does *not* roam the hills of Bundoora' (false)

$$(\neg\forall x(\neg Gx)) \ \& \ (\forall x\forall y((Gx\&Gy) \rightarrow x = y)) \ \& \ (\forall x(Gx \rightarrow \neg Bx))$$

- This is false because its first conjunct,  $(\neg\forall x(\neg Gx))$ , is false

## The excluded middle (ctd)

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- But the sentence also expresses a true proposition, when interpreted as being synonymous with

'It is *not the case that* something is a golden unicorn and at most one thing is a golden unicorn and anything that is a golden unicorn roams the hills of Bundoora'

$$\neg[(\neg\forall x(\neg Gx)) \ \& \ (\forall x\forall y((Gx\&Gy) \rightarrow x = y)) \ \& \ (\forall x(Gx \rightarrow Bx))]$$

- This is true because the first conjunct of the expression between the brackets,  $(\neg\forall x(\neg Gx))$ , is false
- This is the analysis pertinent to the assessment of the law of the excluded middle (which is then satisfied)

## The excluded middle (ctd)

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- In Russell's view, the sentence  
'It is not the case that the golden unicorn roams the hills of Bundoora'  
has what is called a 'scope ambiguity'
- On the second analysis, the negation is said to have **wide scope**:  
 $\neg[(\neg\forall x(\neg Gx)) \& (\forall x\forall y((Gx\&Gy) \rightarrow x = y)) \& (\forall x(Gx \rightarrow Bx))]$
- On the first, it is said to have **narrow scope**:  
 $(\neg\forall x(\neg Gx)) \& (\forall x\forall y((Gx\&Gy) \rightarrow x = y)) \& (\forall x(Gx \rightarrow \neg Bx))$

## THE CASE OF PROPER NAMES

## The paradoxes revisited

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- Notice that our two puzzles also seem to work for **proper names**
- In relation to the first puzzle, one could argue that  
'Father Christmas' does not refer to something that exists  
'Father Christmas roams the hills of Bundoora' is meaningful
- In relation to the second puzzle, one could argue that the two following sentences do not have the same meaning:  
'Lois wondered whether Clark Kent was Superman.' (true)  
'Lois wondered whether Clark Kent was Clark Kent.' (false)

## The paradoxes revisited

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- In response, Russell predictably argues that proper names *are in fact definite descriptions*
- So, for instance, 'Father Christmas' could be replaced by something like 'The old man in a red costume who lives in the North Pole'
- Does Russell think that RTM applies to *any* noun phrase at all?!
- He turns out to have just one class of candidates in mind: **demonstrative pronouns** ('this', 'that'), for which the puzzles do not seem to reoccur

## Next week: Russell on the external world

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- Required:
  - Soames, S. *DoA*, Ch 7.
- Recommended:
  - Russell, B. 1914: *Our Knowledge of the External World as a Field for Scientific Method in Philosophy*. London: Allen and Unwin. Ch 3 'On our knowledge of the external world'.

## References

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- Russell, B. 1905: On denoting. *Mind* 14(56), pp. 479–493.