

# Russell's Logical Atomism

Seminar 7

PHIL2120 Topics in Analytic Philosophy

9 November 2012

# Admin

Essay 1: Due 5pm Thursday 15 November (Hand in to Philosophy Office)

Information about formatting essays and bibliography: See

<http://owl.english.purdue.edu/owl/resource/747/01/>

Required reading for this seminar:

Soames, Ch 8

Optional reading: SEP 'Russell's Logical Atomism'  
<http://plato.stanford.edu/entries/logical-atomism/>

# Admin (cont)

Required reading for next week's seminar:  
Soames Ch 9+10

# A question

A deep metaphysical question: What facts are there, and what are they like?

Russell's logical atomism attempts to answer this question

# Russell's view about properties and facts in 1905

- There are both true and false propositions
- Facts are true propositions
- Some basic constituents of propositions are complex particulars (=particulars that have proper parts)

# Russell's views about properties and facts in 1918

- There are no false propositions
- There are only facts
- The basic constituents of facts are atomic particulars (= particulars that have no proper parts), and fundamental (or simple) properties and relations
- The only atomic particulars are people and sense-data

# A useful tool

A useful tool to use in determining what facts there are, and what they are like, is the logically perfect language discussed in seminar 4, which I will call L.

Let us suppose that:

- i) L contains a logically proper name for each atomic particular,
- ii) L contains a predicate for each fundamental property and relation, and
- iii) L does not contain any other logically proper names or predicates

# A useful tool (cont)

Given Russell's 1905 views: the grammatical structure of each sentence in L is meant to match the structure of the proposition it expresses.

Given Russell's 1918 views:

- i) Many true sentences in L do not express facts
- ii) If a sentence S in L does express a fact, then the grammatical structure of S matches the structure of the fact it expresses



# Atomic sentences in L

The atomic sentences in L are sentences consisting of a predicate followed by one or more logically proper names.

Examples:

- i) 'Ra' ('a is red')
- ii) 'Lab' ('a is to the left of b')

Note: I am assuming for simplicity that redness and to-the-left-of-ness are fundamental properties

# Atomic facts

According to Russell:

- i) Each true atomic sentence in L expresses an atomic fact
- ii) Each atomic fact is expressed by some true atomic sentence in L

# Atomic facts (cont)

Examples: Suppose 'a' refers to Obama, and 'b' refers to Clinton. Then

- i) 'Ra' expresses the atomic fact that Obama is red (whose constituents are Obama and redness)
- ii) 'Lab' expresses the atomic fact that Obama is to the left of Clinton (whose constituents are Obama, Clinton and to-the-left-of-ness)

# Complex sentences and complex facts

In addition to simple sentences, the logically perfect language  $L$  also contains complex sentences built up out of:

`~' (meaning 'not'), '&' (meaning 'and'), 'v' (meaning 'or'), `→' ( meaning 'If...then'), '↔' (meaning 'if and only if'), '∀' (meaning 'for some'), '∃' (meaning 'for some')

Question: Which of these express facts?

# The correspondence principle

(CP) For any true sentence  $S$ , there is a set  $F$  of facts that correspondence of  $S$  to one or more of the members of  $F$  is responsible for the truth of  $S$

(CCP) If correspondence to members in  $F$  is responsible for the truth of  $S$ , then it is impossible for the members of  $F$  to exist without  $S$  being true

# Occam's razor

In determining which complex sentences express facts, Russell appeals to (CP) and (CCP), as well as Occam's razor.

Occam's razor: Do not multiply entities beyond necessity (If there is no reason to believe that there are Fs, believe there are no Fs)

# There are no conjunctive facts

Def: If  $S$  expresses a fact, define  $\underline{S}$  to be the fact expressed by  $S$

Suppose sentences  $A$  and  $B$  express facts. Then

- i) ' $A\&B$ ' correspond to the facts  $\underline{A}$  and  $\underline{B}$ , which are responsible for ' $A\&B$ ' being true, and
- ii) There is no fact expressed by ' $A\&B$ ' because there is no need for one

# There are no disjunctive facts

Suppose 'AvB' is true, where A and B are atomic sentences. We have three possible cases:

- i) If A and B both express facts, then 'AvB' corresponds to A and B which are responsible for 'AvB' being true
- ii) If A expresses a fact, but B doesn't, then 'AvB' corresponds to A which is responsible for 'AvB' being true
- iii) If B expresses a fact, but A doesn't, then 'AvB' corresponds to B which is responsible for 'AvB' being true



# There are no disjunctive facts (cont)

In all three cases, 'AvB' doesn't express a fact, since there is no need for such a fact

# There are negative facts

If ' $\sim S$ ' is true, then (at least in some cases) it expresses a fact.

Reason: Otherwise, there would be no facts that would be responsible for its truth.

Possible examples:

i) ' $\sim$ (a is conscious)'

ii) ' $\sim$ (b has unit mass)'

# There are general facts

Suppose ' $\forall xFx$ ' is true, and F expresses a fundamental property.

Then ' $\forall xFx$ ' expresses a fact, since no set of atomic facts expressed by sentences of the form ' $Fa$ ' can be responsible for its truth.

Reason: No matter how many facts expressed by sentences of the form ' $Fa$ ' there are, it is still possible that ' $\forall xFx$ ' is false.

# Intensional facts

So far the logically perfect language L has

- i) Names for each atomic particular
- ii) Predicates for each fundamental property and relation
- iii) Operator expressions  $\sim$ ,  $\&$ ,  $\vee$ ,  $\rightarrow$ ,  $\leftrightarrow$ ,  $\forall$ , and  $\exists$

Are there any facts that can't be expressed by sentences in L as so far defined?

# Intensional facts (cont)

Russell: The answer is yes. L so far does not have sentences expressing facts of the following form:

- i) The fact that a believes that S
- ii) The fact that a desires that S
- iii) The fact that if it were the case that S then it would be the case that R

These facts are called intensional facts

# Solution

Add operator expressions to L that symbolise:

i) 'believes that'

ii) 'desires that'

iii) 'If it were the case that...then it would be the case that...'

and perhaps others