

Russell's Theory of Descriptions

Bertrand Russell attempts to handle the problem of non-referring definite descriptions (and, by association, non-referring proper names) without the *semantic* luxury of Frege's senses (over and above reference) or the *ontological* luxury of Meinong's non-existing objects.

A **definite description** is a noun phrase of the form “the so-and-so” – for example “the planet closest to the sun,” “the oldest man in the world,” or “the present king of France”. The first description picks out Mercury; the second, we suppose, picks out some man (though I don't know which). But the third description doesn't pick out anything. It is a **non-referring** (or **non-denoting**) **definite description**.

Like Frege, Russell links the meaning of ordinary ‘proper names’ to such definite descriptions. But Russell comes up with an ingenious method for handling non-referring definite descriptions like “the present King of France” which appeal neither to senses nor to non-existing objects.

1. Contextual Definitions. In advance of its technical details, we can see the outlines of Russell's strategy through the following analogy. Suppose Bob works at a company as the Vice President for Acquisitions, a job involving six different tasks. When Bob retires, the company decides not to hire another Vice President for Acquisitions, instead assigning the six tasks to other positions – one task going to the Vice President of Marketing, one to the head of Accounting, etc. Bob visits the company later and asks two questions: “Are all the tasks I used to do still getting done?” Yes. “Which person does those six tasks?” There isn't any person who does those six tasks. That might sound paradoxical: if no one is doing those tasks, how can they still be getting done? But we understand how it could sound paradoxical: assuming that *exactly one* person has to do those six tasks, just like when Bob worked there. We also see why those two answers are nonetheless correct: no *one* employee has a job equivalent to Bob's Vice President for Acquisitions position; yet among the employees all the same work still gets done.

Russell takes the same strategy toward the meaning of definite descriptions. Typically we define a word or phrase through a dictionary-style definition: another word or phrase *which means the same thing* as the one being defined. (That's like

replacing Bob with another Vice President for Acquisitions, who does exactly the same things Bob did.) For instance, we can define the word “bachelor” to mean “adult, unmarried, eligible male”. That explanation of meaning supplies a phrase-for-phrase substitute: in any sentence using the word “bachelor,” the phrase “adult unmarried eligible male” can be substituted, without change of meaning of the overall sentence.

So suppose we have a sentence using the word “bachelor,” and a second sentence identical to the first except that “bachelor” is replaced by “adult unmarried eligible male”. If the two phrases really do mean the same thing, one of those sentences is true whenever the other sentence is. In that case we say that the phrases “bachelor” and “adult unmarried eligible male” are **intersubstitutable *salva veritate***.

Russell's approach is instead to state the meaning of a word *without* giving a dictionary-style phrase which substitutes *salva veritate* for the original. Instead, starting with a sentence which uses the word being defined, we provide a new sentence meaning the same as the original sentence, but which doesn't offer any word- or phrase- substitute for the original word. (This is like distributing the tasks of the Vice President for Acquisitions to several different people: no one person does the same things the Vice President for Acquisitions did, but all the same work still gets done.)

In that case we have provided a **contextual definition** of the word in question. Rather than a **word-for-word** (or phrase-for-phrase) substitution, as in a dictionary, we give a **sentence-for-sentence** substitution. And for Russell, the key to analyzing definite descriptions (whether referring or not) lies in such contextual definitions.

By way of illustration, consider the word “sake” in sentence (1).

(1) I bought them for John's **sake**.

To give a dictionary-style definition of “sake” we need to find some phrase, “**X**” which can state in place of “sake” in (1), *salva veritate*.

(2) I bought them for John's **X**.

But we might be hard pressed to come up with another phrase that means exactly the same thing as “sake”. We could instead explain what Sentence (1) means by providing an entirely different sentence meaning the same as (1) – say, (3)

(1) I bought them for John's **sake**.

(3) I bought them in order to benefit John.

In (3) we don't give a phrase-to-phrase definition of “sake,” yet we still explain the meaning of “sake”-sentence (1) to someone who doesn't understand what it means.

If we can build general rules telling us how to replace any “sake” sentence with a “sake”-free counterpart meaning the same thing, then we'll have given a **contextual definition** of “sake”.

2. Russell's Theory of Descriptions. Russell wants to state the meaning of a definite description – even a non-referring definite description like “the present king of France”. Russell doesn't believe in Fregean senses, however, insisting that the only kind of meaning a phrase can have is **reference**: pointing to something in the world. Yet since the definite description “the present king of France” has no present king of France to point to, it seems Russell is forced into Meinong's view that there ‘in some sense is’ a **non-existing** present king of France for the description to point to. But Russell is no happier with that view.

A contextual definition of “the present king of France” can thread a third way, between these two unacceptable options: instead of giving a phrase-to-phrase translation of this definite description, or finding a present king of France for the description to point to, Russell provides a rule for making sentence-to-sentence translations, for each sentence containing “the present king of France”. And the new sentence will be built entirely out of phrases referring to *existing* things – hence escaping any Meinongian reference to non-existing objects.

So consider a sentence of English – seemingly quite meaningful – which contains a non-referring definite description.

(4) The present king of France is bald

Russell translates (4) into the three-part sentence (5).

(5) (i) There is at least one thing which is a present king of France; **and**
 (ii) there is at most one thing which is a present king of France; **and**
 (iii) all things which are present kings of France are bald.

(5) is true in all the same situations as (4) – and so will logically *mean the same thing* as (4). And (5) does not contain the troublesome definite description found in (4). Hence (5) provides (part of) a contextual definition of the phrase in (4).

On Russell's view, we better see more what (5) says – and what it really refers to – by translating it into the language of formal logic. That requires quantifiers (and variables), predicate letters, and identity.

For example, (5i) might appear to point to a present king of France. But we see otherwise once its state symbolically. We use the following translation table.¹

G: ____ is a present king of France
H: ____ is bald

Sentence (5i) is thus translated as (6i).

(5i) There is **at least one** thing which is a present king of France.

(6i) $\exists x Gx$

According to Russell, the predicate phrase “is a present king of France” certainly has meaning – hence, for him, is indeed pointing at something. But what it points at is just the harmless **property** of being-a-present-king-of-France. Russell believes that *properties* (what he calls “universals”) exist. There's nothing Meinongian about them. They're **abstract**, rather than being concrete particulars like chairs and rocks, but they still exist.

¹ The predicate “is a present king of France” could perhaps be broken down into a cluster of simpler predicates. But since doing so would only clutter the argument, while still reaching the same conclusion, we treat it here as a simple (semantically ‘atomic’) predicate.

In particular: the property of being-a-present-king-of-France exists – it's just that there aren't any individuals that *have* (or *exemplify*, or *instantiate*) that property. But even a property with no instances exists. (Likewise, Russell thinks, there certainly is a property of being-a-unicorn – though no existing object *has* that property. It's because there are no existing objects having that property that we say – rightly – that *there are no unicorns*.)

Sentence (5ii) is translated as (6ii).

(5ii) There is **at most one** thing which is a present king of France.

(6ii) $\exists x \forall y (Gy \rightarrow y=x)$

This says there is at least one object, x , such that anything G is identical to x . That is: if you're G , then you have to be identical to x . Under these conditions, the only thing which can be G is the object x (since it's the only thing identical to x). So x is the only thing that's G , *if anything is* – maybe nothing is G . And that means: *at most one thing is G*.

Conjoined together, (6i) and (6ii) assert that exactly one thing is G (is-a-present-king-of-France).

(5i+5ii) There is **exactly one** thing which is a present king of France.

(6i+6ii) $\exists x \forall y (Gx \wedge (Gy \rightarrow y=x))$

(5iii) is translated as (6iii).

G: ____ is a present king of France

H: ____ is bald

(5iii) All (things which are) present kings of France are bald.

(6iii) $\forall y (Gy \rightarrow Hy)$

Note that (6iii) doesn't say that anything is a present king of France – only that *if* a thing is, then it's also bald.

Adding (6iii) to (6i) and (6ii) yields the complete formal description sentence.

(4) The present king of France is bald

(5) (i) There is at least one thing which is a present king of France; **and**
 (ii) there is at most one thing which is a present king of France; **and**
 (iii) all things which are present kings of France are bald.

G: ____ is a present king of France

H: ____ is bald

(6) $\exists x \forall y ((Gx \wedge (Gy \rightarrow y=x)) \wedge (Gy \rightarrow Hy))$

We can tidy (6) up a bit; for the last part of the translation – “ $(Gy \rightarrow Hy)$ ” – can be shortened to just “ Hx ” here. After all, (6iii) said anything that's G is also H.

(6iii) $\forall y (Gy \rightarrow Hy)$

But since we'd said earlier in the sentence that x is the *only* thing which is G, (6iii) in this context is equivalent to saying that x is H. So (6) is equivalent to (7).

(7) $\exists x \forall y ((Gx \wedge (Gy \rightarrow y=x)) \wedge Hx)$

Two points about this formal translation bear note. **First:** this translation uses only logical concepts (the quantifiers and variables) and names of properties (predicate letters “G” and “H”). Hence the only ‘names’ needing reference here are names of properties – the predicate letters. And for Russell all these properties do indeed exist. So, he concludes, logical analysis reveals that there is no reference to non-existing objects in the sentence “The present king of France is bald” – only reference to two existing properties (one of which – *being a present king of France* – isn't instantiated in any objects).

Second: the sentence makes two claims about the instantiation of the properties G and H. It says (a) exactly one thing instantiates property G (being-a-present-king-of-France) and (b) that thing also instantiates property H (being-bald). That is a **conjunction** of the two claims. And a conjunction is only true when both its parts are true. Are both parts true? Certainly not: (a) is false. It's false to say that there's **exactly one** instance of the property being-a-present-king-of-France – in fact there are **no** instances of that property. So Russell concludes that the sentence

“The present king of France is bald” is simply false – not truth-value-less as Frege claims. And the sentence doesn't refer to any non-existing objects – contrary to what Meinong claims.

Note finally that this logical translation procedure provides a *general* strategy for translation from description-wielding sentences to description-free ones: give Russell any sentence featuring “the present King of France,” and he can build an equivalent sentence not using that phrase. So we have a contextual definition of the definite description “the present king of France”.

3. Scopal Ambiguities. Consider next Sentence (8).

(8) It's not the case that [the present king of France is bald].

This looks like the denial of Sentence (4).

(4) The present king of France is bald.

Following Russell's treatment of (4), we consider it a conjunction of two sentences: (i) “There is exactly one present king of France” and (ii) “He's bald”.² That would make (8) the **negation of a conjunction** – true just when the conjunction is false.

Since a conjunction is false if either of its parts is false, there are three ways a conjunction can be false. If I say “We'll have ice cream and we'll have cake,” three kinds of situations make that sentence false.

- (i) A situation where we don't have ice cream (the left conjunct is false)
- (ii) A situation where we don't have cake (the right conjunct is false)
- (iii) A situation where we don't have either (both conjuncts are false – this is just the overlap of the first two cases.)

So if (8) is true, and (4) is false, it might be because the left conjunct of (4) is false, or because the right conjunct of (4) is false.

² That is putting the point roughly, for simplicity. As noted earlier, the first sentence is really itself a conjunction of two smaller sentences. And while the “he” in (ii) seems to refer to some non-existing object, the above analysis showed that it doesn't really.

That is: if (8) is true, it might be because (9) is true.

(8) It's not the case that [the present king of France is bald].

(9) There isn't a unique present king of France (and so certainly not one who's bald).

Or it might be because (10) is true.

(10) (There *is* a unique present king of France, but) he's not bald.

These offer **two different interpretations of Sentence (8)**. And Russell argues that as speakers of English, we do indeed get these different readings of (8). If that's right, it's a semantic point is a point in favor of Russell's analysis: it makes the correct prediction that (8) is semantically ambiguous.

Stating Sentences (9) and (10) in formal language provides a sharper picture of what each is saying. (9) is translated by Sentence (11).³

G: ____ is a present king of France

H: ____ is bald

(9) There isn't a unique present king of France (and so certainly not one who's bald).

(11) $\sim \exists x \forall y ((Gx \wedge (Gy \rightarrow y=x)) \wedge Hx)$

(10) is translated by Sentence (12).

(10) (There *is* a unique present king of France, but) he's not bald.

(12) $\exists x \forall y ((Gx \wedge (Gy \rightarrow y=x)) \wedge \sim Hx)$

The sole difference between (11) and (12) lies in where the tilde appears, compared to where the quantifiers do. In sentence (11) the tilde claims a bit more ground than the quantifiers. That is: in (11) the tilde has **wider scope** than the quantifiers.

³ Note that (11) is the negation of our earlier definite description sentence (7).

By contrast, in (12) the quantifiers have far wider scope than the tilde – the tilde having just “ Gx ” as its scope in (12). So in (12) the tilde has comparatively **narrow scope**.

(8) It's not the case that [the present king of France is bald].

(9) There isn't a unique present king of France (and so certainly not one who's bald).

(11) $\sim \exists x \forall y ((Gx \wedge (Gy \rightarrow y=x)) \wedge Hx)$

(10) (There *is* a unique present king of France, but) he's not bald.

(12) $\exists x \forall y ((Gx \wedge (Gy \rightarrow y=x)) \wedge \sim Hx)$

For this reason (11) is traditionally called the **narrow scope reading** of Sentence (8), while (12) is called the **wide scope reading** of (8). (The scope mentioned here is the **quantifier scope**, compared to the scope of its competitor – in this case, the tilde.)

Now given that in fact there is no present king of France, (11) – the narrow scope reading of (8) – is **true**.

But (12) – the wide scope reading of (8) – is **false**, since it claims that there is a unique (non-bald) present king of France.

Those results might seem unintuitive. For while Sentence (4) is false, Sentence (8) – **on its wide scope reading** – will also be false.

(4) The present king of France is bald.

(8) It's not the case that [the present king of France is bald].

This looks like a violation of the Principle of Bivalence (or the semantic rule for negation).

But Russell's analysis resolves (or perhaps dissolves) the problem. (8) is only false on its wide scope reading, represented formally by (12).

(8) It's not the case that [the present king of France is bald].

(10) (There *is* a unique present king of France, but) he's not bald.

(12) $\exists x \forall y ((Gx \wedge (Gy \rightarrow y=x)) \wedge \sim Hx)$

Recall that (4) was stated formally as (7).

(4) The present king of France is bald.

(7) $\exists x \forall y ((Gx \wedge (Gy \rightarrow y=x)) \wedge Hx)$

But **Sentence (12) is not the negation of Sentence (7).**

Instead it's Sentence (11) – the **narrow scope reading** of (8) – that's the *real* negation of (false) Sentence (7).

(9) There isn't a unique present king of France (and so certainly not one who's bald).

(11) $\sim \exists x \forall y ((Gx \wedge (Gy \rightarrow y=x)) \wedge Hx)$

But (11) is true – in conformity with Bivalence (and the semantics of negation). Russell's analysis explains why English Sentence (8) can be read in two different ways – and does so without violating any semantic principles.

4. Conclusion. Russell argues that a correct logical analysis of definite descriptions (involving contextual definitions of descriptions) allows us to solve all the problems Meinong and Frege ever solved (plus others, like scopal ambiguities, which they didn't solve) – and do so more cheaply in terms of both semantics and ontology. Our semantics is cheaper, because the only type of meaning required for Russell is reference. (We don't need any second level of Fregean senses.) Our ontology is cheaper, because we only refer to existing things – including properties. (We don't need any second Meinongian realm of non-existing objects.) And, as just noted, none of this requires violating classical logical laws such as the Principle of Bivalence or the semantics of negations.

Someone not understanding the details of the logical machinery might suspect Russell of saying contradictory things. For consider: Russell basically claims that **all four** of the following claims are true.

- (i) **The only kind of meaning is reference.** (Russell agrees with Meinong about this.)
- (ii) **There are no non-existing objects for words to point to.** (Russell agrees with Frege about this.)
- (iii) **Some sentences containing the phrase “the present king of France” are meaningful.** (Russell agrees with both Meinong and Frege about this.)
- (iv) **There exists no present king of France.** (Russell agrees with Meinong, Frege, and everyone else about this.)

The definite description “the present king of France” isn’t pointing to an existing present king of France (from (iv)); and it isn’t pointing to a non-existing present king of France (from (ii)); and the only kind of meaning is pointing (from (i)); and the definite description does have a meaning (from (iii)). At first glance it seems like you can’t consistently hold all four of these views. Yet Russell pulls it off.

Philosophers following Russell were duly impressed by Russell’s argument, and it became a model for how to tackle problems of meaning and metaphysics through careful logical analysis. In the decades after Russell first presented his “theory of descriptions” (in 1905), various related schools of philosophy arose (under names such as “analytic philosophy,” “linguistic analysis,” and “logical positivism”) which held that this sort of logical analysis could solve most, perhaps all, outstanding problems in metaphysics, and philosophy more generally.

In hindsight it is easier to see that logical analysis is not in itself the skeleton key to philosophy that some took it to be. But it remains one essential instrument in the philosophical toolbox.