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Seminar on Presupposition
Heinrich Heine University
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Room: 23.21-U1.46

Frege and Russell

1 Frege's *Über Sinn und Bedeutung*

1.1 Sense and reference of NPs

Problem: If $a = b$, then why isn't $a = a$ equivalent to $a = b$? They are not equivalent, because somebody can know one without knowing the other. An example from Russell:

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

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

Frege's solution: They have the same referent, but different senses.

Presupposition failure: having a sense but no referent.

> It may perhaps be granted that every grammatically well-formed expression representing a proper name always has a sense. But this is not to say that to the sense there also corresponds a referent. The words "the celestial body most distant from the earth" have a sense, but it is very doubtful if they also have a referent. The expression "the least rapidly convergent series" as a sense; but it is known to have no referent, since for every given convergent series, another convergent, but less rapidly convergent, series can be found. In grasping a sense, one is not certainly assured of a referent. [Frege 1948, p. 211]

> To make short and exact expressions possible, let the following phraseology be established:
> A proper name (word, sign, sign combination, expression) *expresses* its sense, *refers to* or *designates* its referent. By means of a sign we express its sense and designate its referent.

> Idealists or skeptics will perhaps long since have objected: "You talk, without further ado, of the moon as an object; but how do you know that the name 'the moon' has any referent? How do you know that anything whatsoever has a referent?" I reply that when we say "the moon," we do not intend to speak of our conception of the moon, nor are we satisfied with the sense alone, but we presuppose a referent... Now we can of course be mistaken in the presupposition, and such mistakes have indeed occurred. But the question whether the presupposition is perhaps always mistaken need not be answered here; in order to justify mention of the referent of a sign it is enough, at first, to point out our intention in speaking or thinking. [p. 214]

1.2 Sense and reference of sentences

Do sentences have senses and referents? Sentences express thoughts, but thoughts are not the referents. Evidence: one can know (3) but not (4).

(3) The morning star is a body illuminated by the sun.

(4) The evening star is a body illuminated by the sun.

Can a sentence have a sense without having a referent? Yes: sentences which contain proper names without referents.

(5) Odysseus was set ashore at Ithaca while sound asleep.

> [(5)] obviously has a sense. But since it is doubtful whether the name 'Odysseus,' occurring therein, has a referent, it is also doubtful whether the whole sentence has one. Yet it is certain, nevertheless, that anyone who seriously took the sentence to be true or false would ascribe to the name 'Odysseus' a referent, not merely a sense; for it is the referent of the name which is held to be or not to be characterized by the predicate. Whoever does not consider the referent to exist, can neither apply nor withhold the predicate." (p. 215)

Sometimes we don't need a referent, and we can be satisfied with the sense, as in art. "It is the striving for truth that drives us always to advance from the sense to the referent." (p. 216)

> We are therefere driven into accepting the *truth value* of a sentence as its referent. By the truth value of a sentence I understand the circumstance that it is true or false. There are no further truth values. For brevity I call the one the true, the other the false. Every declarative sentence concerned with referents of its words is therefore to be regarded as a proper name, and its referent, if it exists, is either the true or the false.

Prediction: "If our supposition that the referent of a sentence is its truth value is correct, the latter must remain unchanged when a part of the sentence is replaced by an expression having the same referent."

- Works for embedded noun phrases; (3) and (4) have the same truth value.
- What about embedded sentences? Lots of apparent counterexamples.

Indirect quotations.

(6) John said that [the morning star is a body illuminated by the sun].

(7) John said that [the evening star is a body illuminated by the sun].

Here the referent of the S is the thought (which is the 'customary sense'), not the truth value ('indirect reference').

Dependent questions.

(8) John doubts whether [the morning star is a body illuminated by the sun].

Indirect reference; the referent is the thought, not the truth value.

Free relative clauses.

(9) He [who discovered the elliptic form of the planetary orbits] died in misery.

The sense of the S is not a complete thought, and its referent is Kepler, not a truth value.

> One might object that the sense of the whole does contain a thought as a part, namely, that there was sombody who first discovered the elliptic form of the planetary orbits; for whoever takes the whole to be true cannot deny this part. This is undoubtedly so but only because otherwise the subordinate clause "he who discovered the elliptic form of the planetary orbits" would have no referent.

This is not specific to free relative clauses!

> If anything is asserted there is always an obvious presupposition that the simple or compound proper names use have referents. If one therefore asserts "Kepler died in misery," there is a presupposition that the name "Kepler" designates something; but it does not follow that the sense of the sentence "Kepler died in misery" contains the thought that the name "Kepler" designates something. If this were the case the negation would have to run not:
>
> Kepler did not die in misery
>
> but
>
> Kepler did not die in misery, or the name "Kepler" has no referent.
>
> That the name "Kepler" designates something is just as much a presupposition for the assertion
>
> Kepler died in misery
>
> as for the contrary assertion.

This is a deficiency of natural languages, according to Frege:

> Now languages have the fault of containing expressions which fail to designate an object (although their grammatical form seems to qualify them for that purpose) because the truth of some sentences is a prerequisite. Thus it depends on the truth of the sentence:
>
> There was someone who discovered the elliptic form of the planetary orbits
>
> whether the subordinate clause
>
> He who discovered the elliptic form of the planetary orbits

> really designates an object or only seems to do so while having in fact no referent... This arises from an incompleteness of language, from which even the symbolic language of mathematical analysis is not altogether free; even there combinations of symbols can occur which appear to refer to something having (at any rate so far) no referent, e.g., divergent infinite series.... A logically complete language (*Begriffsschrift*) should satisfy the conditions, that every expression grammatically well constructed as a proper name out of signs already introduced shall in fact designate an object, and that no new sign shall be introduced as a proper name without having a referent assured.

There are at least two attempts to remedy this deficiency: Meinong and Russell.

Summary of Frege's theory

	senses	referents
proper names, definite descriptions	incomplete thoughts?	individuals
sentences	thoughts	truth values

2 Russell

Russell (1905) criticizes two other theories of definite descriptions:

- Meinong's theory: Definite descriptions like *the King of France,* which do not denote entities that 'subsist', nevertheless denote special objects that exist in some distant parallel realm.
- Frege's theory: Definte descriptions like *the King of France* have a sense but no referent.

Russell's critique of Meinong: It leads to mutually contradictory consequences.

> This is in itself a difficult view; but the chief objection is that such 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; that the round square is round, and also not round; etc. But this is intolerable; and if any theory can be found to avoid this result, it is surely to be preferred.

Russell's critique of Frege: It predicts that sentence containing *the King of France* would be nonsense. (Really??)

> [The phrase 'the King of France'] has certainly no denotation, at least in any obvious sense. Hence one would suppose that "the King of France is bald" ought to be nonsense; but it is not nonsense, since it is plainly false.

Russell claims that his theory can solve the following three puzzles. (Question to keep in mind: can Frege's theory solve them?)

1. Frege's puzzle. Why aren't these equivalent?

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

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

2. Truth value gaps. Why is neither one of these true?

(12) The present King of France is bald.

(13) The present King of France is not bald.

"By the law of the excluded middle," either P or the negation of P should be true. Indeed, Frege clearly implies that (13) is the negation of (12).

"Yet if we enumerated the things that are bald, and then the things that are not bald, we should not find the present King of France in either list. Hegelians, who love a synthesis, will probably conclude that he wears a wig." (p. 485)

3. Non-existence claims. How is it possible to deny the existence or being of something?

(14) The difference between A and B does not subsist.

(15) The King of France does not exist.

For Meinong and Frege, 'the F' implies that 'the F' exists.

Russell's theory. Definite descriptions are like quantifiers.

C(everything)	C(x) is always true
C(nothing)	'C(x) is false' is always true
C(something)	It is false that "C(x) is false" is always true
C(a man)	'C(x) and x is human' is not always false
C(all men)	'If x is human, then C(x) is true' is always true
C(no men)	'If x is human, then C(x) is false' is always true
C(the man)	It is not always false of x that x is a man and C(x) is true and that 'if y is a man, then y is identical with x' is always true of y

This "gives a reduction of all propositions in which denoting phrases occur to forms in which no such phrases occur." It is a *syncategorematic* analysis, in the sense that 'the F' has no meaning on its own; Russell only offers an analysis of sentences of the form 'the F is G'.

In more modern notation, 'the F is G' means, according to Russell:

(16) $\exists x[F(x) \wedge \forall y[F(x) \rightarrow x = y] \wedge G(x)]$

Russell's solution to Frege's puzzle.

(17) Scott is the author of *Waverley*.

(18) $\exists x[\textsc{AoW}(x) \wedge \forall y[\textsc{AoW}(x) \rightarrow x = y] \wedge x = \textsc{Scott}]$

(19) George IV wished to know whether Scott is the author of *Waverley*.

(20) $\exists x[\textsc{AoW}(x) \wedge \forall y[\textsc{AoW}(x) \rightarrow x = y] \wedge \textsc{WtK}(\textsc{GeorgeIV}, x = \textsc{Scott})]$

(21) $\textsc{WtK}(\textsc{GeorgeIV}, \exists x[\textsc{AoW}(x) \wedge \forall y[\textsc{AoW}(x) \rightarrow x = y] \wedge x = \textsc{Scott}])$

In (20), the definite description takes *wide scope* with respect to the propositional attitude 'wished to know'. In Russell's terms, this is a *primary occurrence* of the definite description.

In (21), the definite description takes *narrow scope* with respect to the propositional attitude. In Russell's terms, this is a 'secondary occurrence' of the definite description.

The wide scope reading in (21) can be called a *de re* reading; the narrow scope *de dicto*. Cf. *de re* and *de dicto* readings of indefinites:

(22) Every man loves a woman.

(23) $\exists x[\textsc{Woman}(x) \wedge \forall y[\textsc{Man}(x) \rightarrow \textsc{Loves}(x, y)]]$ [de re]

(24) $\forall y[\textsc{Man}(x) \rightarrow \exists x[\textsc{Woman}(x) \wedge \textsc{Loves}(x, y)]]$ [de dicto]

The *de re/de dicto* ambiguity that (19) gives rise to is something that Frege's theory cannot account for.

Russell's solution to the truth value gap problem.

(25) The King of France is bald.

(26) $\exists x[\textsc{KoF}(x) \wedge \forall y[\textsc{KoF}(x) \rightarrow x = y] \wedge \textsc{Bald}(x)]$

False if there is no King of France, or multiple ones.

(27) The King of France is not bald.

Two readings:

(28) $\exists x[\textsc{KoF}(x) \wedge \forall y[\textsc{KoF}(x) \rightarrow x = y] \wedge \neg\textsc{Bald}(x)]$
[primary reading: **False** if there is no King of France.]

(29) $\neg\exists x[\textsc{KoF}(x) \wedge \forall y[\textsc{KoF}(x) \rightarrow x = y] \wedge \textsc{Bald}(x)]$
[secondary reading: **True** if there is no king of France.]

"Thus we escape the conclusion that the King of France has a wig."

Russell's solution to the denial-of-existence problem. Suppose that the meaning of (30) is (31).

(30) The King of France exists.

(31) $\exists x[\textsc{KoF}(x) \wedge \forall y[\textsc{KoF}(y) \rightarrow x = y]]$

Suppose that the meaning of (32) is (33).

(32) The King of France does not exist.

(33) $\neg\exists x[\textsc{KoF}(x) \wedge \forall y[\textsc{KoF}(y) \rightarrow x = y]]$

This works, and it's in the spirit of Russell's theory...

References

Frege, G. (1948). Sense and reference. *The Philosophical Review*, 57(3):209–230.

Russell, B. (1905). On denoting. *Mind*, 14:479–93.