

Frege and Russell on Names and Descriptions

Sense and Reference

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The story so far

- ▶ We considered two theories of meaning: Name Theory and Idea Theory.
- ▶ Name Theory faced the problems of informative identity, empty terms, logical words and the unity of the proposition.
- ▶ Idea Theory solved the problems of informative identity and empty names, but faced the problem of communication.

Talk outline

Reference

The Puzzles

Sense

Indirect contexts

Conclusion

Frege

- ▶ Frege's best expression of his theory is given in 'On Sense and Reference' (1892).
- ▶ His views changed significantly over time.
- ▶ I'll be filling his view out with details from 'Function and Concept' (1891) and 'On Concept and Object' (1892).
- ▶ He combines elements of the Name Theory and Idea Theory.
- ▶ Let's start with the influence of the Name Theory.
- ▶ First, names refer to objects.

Functions

- ▶ He introduces the notion of *function* to the philosophy of language.
- ▶ Functions are expressed by *functors*.
- ▶ Functions map *arguments* (inputs) to *values* (outputs).
- ▶ Arguments are mapped to unique values.
- ▶ E.g. the mathematical function of *squaring* takes each number to its unique square.
- ▶ *Square-rooting* is not functional: numbers have many square roots.

Functions

- ▶ Functions don't have to be mathematical.
- ▶ Consider 'the first album by x ':

RuPaul		<i>Supermodel of the World</i>
St Vincent		<i>Marry Me</i>
Nicki Minaj		<i>Pink Friday</i>

- ▶ Compare: 'the members of x '.

Predicates

- ▶ Frege thought that predicates refer to functions.
- ▶ The arguments are *objects* and the values are *truth-values*.
- ▶ Consider the predicate
'x had lunch with Donald Trump last week'.

Kanye West		True
Owen		False

- ▶ Frege called these functions *concepts*.
- ▶ Today we say *properties*.

Sentences

- ▶ Now consider the sentence
'Kanye West had lunch with Donald Trump last week'.
- ▶ Here's Frege's semantic story:
 - ▶ 'Kanye West' is a name referring to Kanye West.
 - ▶ 'x has lunch with Donald Trump last week' is a predicate referring to a function.
 - ▶ When we take Kanye West as the argument for this function, the value is *True*.
 - ▶ So the sentence is true.

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The Unity of the Proposition

- ▶ The problem of the unity of the proposition is solved.
- ▶ Compare 'Elton loves David' and 'Elton, the relation of loving, David'.
- ▶ The former consists of a name and a predicate.
- ▶ The latter is a list of names.
- ▶ Names and predicates behave differently.

Logical Words

- ▶ And logical words refer to functions.
- ▶ E.g. ' \wedge ' refers to the function of conjunction, which inputs truth values and outputs a single truth value.

A	B	$A \wedge B$
T	T	T
T	F	F
F	T	F
F	F	F

Informative Identity

- ▶ The problem of informative identity statements has not yet been solved.
- ▶ The problem of empty terms has not yet been solved.
- ▶ This is where Frege takes inspiration from the Idea Theory.
- ▶ He introduces the notion of *sense* to solve the remaining problems.

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Frege on sense

*It is natural, now, to think of there being connected with a sign (name, combination of words, written mark) besides that which the sign designates, which may be called the reference of the sign, also what I should like to call the sense of the sign, wherein the mode of presentation is contained. In our example, the reference of ['Hesperus'] would be the same as that of ['Phosphorus'], but not the sense.
(Frege, 'On sense and reference', p. 152)*

Sense

- ▶ The sense of an expression is the way that it presents the object it refers to.
- ▶ The name 'Kanye West' *refers to* Kanye West.
- ▶ 'Kanye West' also expresses a *sense*, which is the *mode of presentation*.
- ▶ This sense *presents* Kanye West.

Informative identity

(1) Donald Glover = Donald Glover

(2) Donald Glover = Childish Gambino

- ▶ Although 'Donald Glover' and 'Childish Gambino' co-refer, they have distinct *senses*.
- ▶ Generally, there are many ways of presenting the same object.

Sense

- ▶ Senses can seem mysterious.
- ▶ They are *abstract*.
- ▶ Frege says they belong to a 'third realm', neither physical nor mental.
- ▶ They are *public*.
- ▶ They are *objective*.
- ▶ This is how they solve the communication problem.
- ▶ They have a certain fineness of grain:
 - ▶ Fine enough to distinguish 'Donald Glover' from 'Childish Gambino'.
 - ▶ Coarse enough not to distinguish your conception of Childish Gambino from mine.

Predicates

- ▶ Predicates also have senses.
- ▶ As with names, predicates can have the same reference but distinct sense.
- ▶ Compare:
 - 'x is married to Beyoncé'
 - 'x is the first rapper to be inducted into the Songwriter's Hall of Fame'
- ▶ Or:
 - 'x is trilateral'
 - 'x is triangular'

Sentences

- ▶ Sentences also have sense and references.
- ▶ The references are truth values.
- ▶ The sense are *thoughts*
- ▶ They are comprised of the senses of their parts.
- ▶ Today, we would be more likely to say *propositions*.

Empty Terms

- ▶ Empty terms have sense but no reference.
- ▶ Sentences involving empty terms lack a truth value.
- ▶ 'Vulcan orbits the Sun' is neither true nor false.
- ▶ Some have thought that this is a problem.
- ▶ We would have to change classical logic.

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Co-reference

- ▶ A plausible principle of reference:

Co-Reference Co-referring expressions are intersubstitutable
salva veritate.

- ▶ Consider:

- ▶ Kanye West had lunch with Donald Trump.
- ▶ Ye had lunch with Donald Trump.
- ▶ The artist responsible for *My Beautiful Dark Twisted Fantasy* had lunch with Donald Trump.
- ▶ Kanye West had lunch with the president of the US.
- ▶ The artist responsible for *My Beautiful Dark Twisted Fantasy* had lunch with the man responsible for Trump University.

Counterexample

- (1) Lois Lane believes that Superman flies.
 - (2) Lois Lane believes that Clark Kent flies.
- ▶ Expressions like 'believes that', 'hopes that', 'desires that', 'fears that', etc, introduce *indirect contexts*.
 - ▶ Indirect contexts provide counterexamples to the Co-Reference principle.

Reference shift

- ▶ Frege believes that indirect contexts trigger a *reference shift*.
- ▶ In these contexts, expressions refer to their *sense*.
 - (1) Lois Lane believes that Superman flies.
 - (2) Lois Lane believes that Clark Kent flies.
- ▶ In (1), 'Superman' refers to the sense that 'Superman' has in direct contexts.
- ▶ In (2), 'Clark Kent' refers to the sense that 'Clark Kent' has in direct contexts.
- ▶ The sense that 'Superman' has in direct contexts \neq the sense that 'Clark Kent' has in direct contexts.
- ▶ (2) is not the result of substituting co-referring terms in (1).

Sense shift

- ▶ There is also a *sense* shift in indirect contexts.
- ▶ The sense of an expression in an indirect context is its *indirect* sense.
- ▶ So the sense expressed by 'Superman' in (1) is the indirect sense of 'Superman'.
- ▶ The sense expressed by 'Clark Kent' in (2) is the indirect sense of 'Clark Kent'.

Logical health warning

- ▶ You may have the following worry:

That's all very well. The postulation of senses does solve the problems of naming. Nevertheless, senses are mysterious metaphysical beasts that plainly do not exist. There are no senses.

- ▶ It is crucial for Frege that nothing less will do.
- ▶ You should believe in senses because otherwise these puzzles cannot be solved.
- ▶ But they must be solvable, since we do communicate, use empty terms, learn from identity statements, etc.
- ▶ For an attempt to solve the very same problems without recourse to sense, see Bertrand Russell's theory of descriptions.
- ▶ We turn to that next week.

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Reference	Socrates (object)	Wisdom (concept)	Truth-value
	↑	↑	<i>presents</i>
Sense	⟨ Socrates ⟩	⟨ is wise ⟩	Thought
	↑	↑	<i>expresses</i>
Language	'Socrates' (name)	'is wise' (predicate)	Sentence