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

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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 filing 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.
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’:

<table>
<thead>
<tr>
<th></th>
<th>Supermodel of the World</th>
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<tbody>
<tr>
<td>RuPaul</td>
<td></td>
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<tr>
<td>St Vincent</td>
<td>Marry Me</td>
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<tr>
<td>Nicki Minaj</td>
<td>Pink Friday</td>
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</table>

- 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’.

<table>
<thead>
<tr>
<th>Kanye West</th>
<th>True</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owen</td>
<td>False</td>
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</tbody>
</table>

- Frege called these functions *concepts*.
- Today we say *properties*.
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 \text{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. ‘∧’ refers to the function of conjunction, which inputs truth values and outputs a single truth value.

<table>
<thead>
<tr>
<th>$A$</th>
<th>$B$</th>
<th>$A \land B$</th>
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<tbody>
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<td>T</td>
<td>T</td>
<td>T</td>
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<td>F</td>
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<td>F</td>
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</tbody>
</table>
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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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)
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 ≠ 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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<table>
<thead>
<tr>
<th>Reference</th>
<th>Socrates (object)</th>
<th>Wisdom (concept)</th>
<th>Truth-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sense</td>
<td>\langle Socrates \rangle</td>
<td>\langle is wise \rangle</td>
<td>presents</td>
</tr>
<tr>
<td>Language</td>
<td>‘Socrates’ (name)</td>
<td>‘is wise’ (predicate)</td>
<td>Thought</td>
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<td></td>
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