

Mind, Matter, and Language

Lecture 6: Intensional Semantics

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Review

Frege's purely referential conception of meaning ran into problems.

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So he introduced a second layer of meaning: **sense**.

- Every meaningful expression has a sense.
- The sense of an expression is not an idea.
- It is a mode of presentation of the referent.
- Informativeness is a matter of sense.
- Competent speakers grasp the sense of an expression.

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Introducing sense didn't (significantly) change this part of his theory.

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- 'Hesperus is a planet' — 'Phosphorus is a planet'.
- 'The first postmaster general was born in Boston' — 'The inventor of bifocals was born in Boston'.
- 'Edinburgh is in Scotland and Paris is in France' — 'Edinburgh is in Scotland and $2+2=4$ '.

The attitude problem

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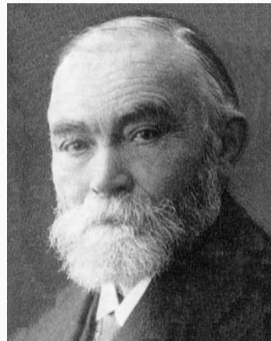
The attitude problem:

- True: 'Hammurabi believed that Hesperus is visible in the evening sky.'
- False: 'Hammurabi believed that Phosphorus is visible in the evening sky.'

The attitude problem

Exceptions are to be expected when the whole sentence or its part is in direct or indirect quotation; for in such cases [...] the words do not have their customary referent. In direct quotation, a sentence designates another sentence, and in indirect speech a thought.

Frege, "On Sense and Reference" (1892)



The attitude problem

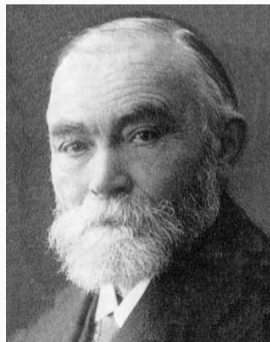
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If words are used in the ordinary way, what one intends to speak of is their referent. It can also happen, however, that one wishes to talk about the words themselves [...]. This happens, for instance, when the words of another are quoted. One's own words then first designate words of the other speaker [...]. Accordingly, a word standing between quotation marks must not be taken as having its ordinary referent.

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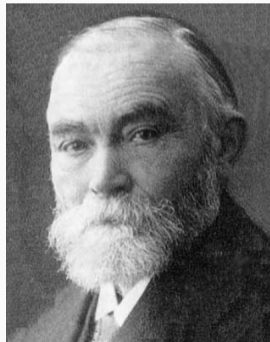
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The case of an abstract noun clause, introduced by 'that', includes the case of indirect speech, in which [...] the words [...] have their indirect referent, coincident with what is customarily their sense.

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That-clauses in belief reports refer to what is normally their sense.

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Linguistic constructions in which replacing co-referring expressions can affect the truth-value of a sentence are called **opaque**.

- Hammurabi believed that ...
- It is possible that ...
- The laws of physics entail that ...
- I came late to the lecture because ...

Intensional semantics

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“Understanding a sentence means knowing what is the case if the sentence is true.”

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A typical sentence is true in some of them, and false in others.

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- ...

We can therefore understand a sentence’s **truth-conditions** as a **function from possible worlds to truth-values**.

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We can capture this dependence by a **function from possible worlds to referents**.

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We can represent (something like) Fregean senses by functions from possible worlds to referents.

Such functions are called **intensions**.

	sentence	name	predicate
intension	worlds \mapsto truth-values	worlds \mapsto things	worlds \mapsto (things \mapsto truth-values)
reference	truth-value	thing	things \mapsto truth-values

Intensional semantics

Intensional semantics is a thriving field of research.



<http://web.mit.edu/fintel/fintel-heim-intensional.pdf>