

INTRODUCTION & CORE CONCEPTS

LECTURE 1

Moreno Mitrović

The HU Lectures on Formal Semantics



The Treachery of Images by René Magritte. 1929. Oil on canvas. 60.33 cm x 81.12 cm

THE COURSE MANUAL

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LOGISTICS

- Course material, including slides and problem sets, will be deposited on
 - my website: <http://mitrovic.co/teaching/sem25>
 - our discord: <https://discord.gg/E3kheswS>
- **Attendance is extremely important:** we will build our analysis incrementally (missing one lecture will set you back).
- HANDOUT

THE COURSE MANUAL

MATERIAL

- We will use Heim & Kratzer [HK], the key semantics textbook out there:
Heim, I. & A. Kratzer. 1998. *Semantics in Generative Grammar*. Oxford: Blackwell.
- This textbook is generally used in post-graduate courses, so the standard is high but so is the pay-off.
- Don't worry about following the book – I'll prepare slides with sufficient clarity that distill the core conceptual technology of generative formal semantics
 - It's important you let me know what remains unclear so I can adjust the slides/content accordingly (for this and future classes)

CHECKLIST

- ✓ You've received an email from me
- ✓ You've joined our discord

SEMANTICS IN THE SPACE OF LINGUISTICS

- big question:

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- How does it relate to other levels?
- **grammatical** vs **meaningful** utterances

LINGUISTICS & SEMANTICS: WHY DO IT?

- Language is probably the most **striking manifestation of human intelligence**.
- Not only a **tool for sharing thought** (communication), but also a powerful **tool for thought itself**.
- Linguists, and other cognitive scientists, aim to **discover the mental data structures and algorithms** that are involved in thinking, reasoning, and understanding/using language.
 - How can a sequence of sounds give rise to a sequence of thought? How can it trigger a chain of deduction?
 - There have to exist symbolic structures.

- Semantics is the study of meaning
 - Philosophical approaches
 - Linguistic approaches
- If **meaning** is the **object of our study**, we need to know **what it is**, or **what it means**
 - (The fact that it sounds funny is curious in itself, and the idea of *the meaning of meaning* alone shows a philosophical problem).

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- Saussure: **reference**
- Frege: **reference and sense** (recall Birdman)

SEMANTICS IN THE SPACE OF LINGUISTICS

TRUTH-CONDITIONAL SEMANTICS

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- The second property: **MEANING IS COMPOSITIONAL**.

Principle of Compositionality

The meaning of a sentence is computed from the meaning of its parts.

Our goal

to break down sentences into their parts and consider the contribution of each part to the truth-conditions of the whole.

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THE FREGEAN PROGRAMME

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COMPOSITIONALITY

- This insight and principle of compositionality is due to **Gottlob Frege**:
It is astonishing what language accomplishes. [Communication] would not be possible if we could not distinguish parts in the thought that correspond to parts of the sentence, so that the construction of the sentence can be taken to mirror the construction of thought ... The question now arises how the construction of the thought proceeds, and by what means the parts are put together so that the whole is something more than the isolated parts.

*In my essay "Negation," I considered the case of a thought that appears to be composed of one part which is **in need of completion** or, as one might say, **unsaturated**, and whose linguistic correlate is the negative particle, and another part which is a thought. We cannot negate without negating something, and this something is a thought. Because this thought **saturates** the unsaturated part or, as one might say, completes what is in need of completion, the whole hangs together. And it is a natural conjecture that logical combinations of parts into a whole is always a matter of saturating something unsaturated. ☆*

☆ Frege, G. 1923–6. Logische Untersuchungen. Dritter Teil: Gedankengefüge. BzPdDI. 3:36–51.

MEANING = TRUTH-CONDITIONS + COMPOSITIONALITY

- So negation is unsaturated, i.e., it is **in need of completion**.
- A proposition without negation is saturated, it is a complete semantic unit with its own truth-conditions.

- (2) a. Trump is an idiot.
 b. Trump is **not** an idiot.

- A sketch of meanings for (2):

- (3) a. "(2a)" is true iff (2a).
 b. i. "(2b)" is true iff (2b).

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- A sketch of meanings for (2):

- (3) a. "(2a)" is true iff (2a).
 b. i. "(2b)" is true iff (2b).
 ii. "(2b)" is true iff (2a) is false.

- Meaning: saturated or unsaturated?

	SAUTRATED	UNSAUTRATED
'not'		
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- (How else could we understand saturation/completeness of meaning?)

MORE ON MEANING SATURATION

Statements in general, *just like equations* ..., can be imagined to be *split up into two parts*; one complete in itself, and the other in need of supplementation, or "*unsaturated*." Thus, e.g., we split up the sentence

"Caesar conquered Gaul"

into "Caesar" and "conquered Gaul." The second part is "unsaturated" – *it contains an empty place*; only when this place is filled up with a proper name, or with an expression that replaces a proper name, does a complete sense appear.

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- An analysis of meaning will require a language on a higher-level: a metalanguage.

ZOOMING OUT: TOWARDS A METALANGUAGE

- An analysis of meaning will require a language on a higher-level: a metalanguage.
- We will adopt a **mathematical metalanguage** when defining the conditions on meaning of the **English object language**.

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- A translation into metalanguage can reveal "a higher truth" of meaning. That is what we will be doing.

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- We will adopt a **mathematical metalanguage** when defining the conditions on meaning of the **English object language**.
- A translation into metalanguage can reveal "a higher truth" of meaning. That is what we will be doing.
- We first have to learn the metalanguage. Let's do that next time.
- (But first: homework)

HOMEWORK

- Get to know (have a drink with) at least three people on this course you haven't met yet.
- Group work could be great. Start coagulating.