

Semantics 1 Introduction

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Framing the problem

Some examples

Lessons from the examples

Truth and truth-conditions

Framing the problem

What is meaning?
(What does “mean” mean?)

Framing the problem

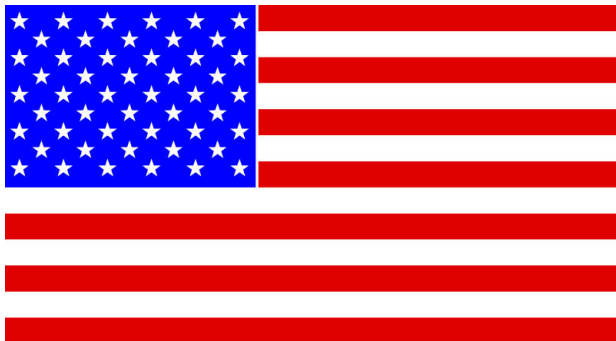
What is meaning?

(What does “mean” mean?)

- ▶ How can we transform this into an answerable question?

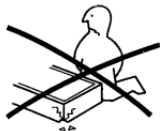
Example 1

- ▶ What does this mean?



Example 1

- ▶ What does this mean?



Example 3

- ▶ What do these clouds mean?



Example 4

- ▶ What does this mean?



Example 5

- ▶ What does this mean?

“Estoy cansado.”

Example 6

- ▶ What does this mean?

“A pink elephant is sitting on
the roof.”

Lessons from the examples

- ▶ Why do these things have the meaning they do? (flag, ikea diagram, clouds, stop sign, Spanish ex, English ex)

Lessons from the examples

- ▶ Why do these things have the meaning they do? (flag, ikea diagram, clouds, stop sign, Spanish ex, English ex)
- ▶ How is linguistic meaning different?

Truth and truth-conditions

► Is this sentence true?

(1) A pink elephant is sitting on the roof.

Truth and truth-conditions

- ▶ Is this sentence true?
- (2) A pink elephant is sitting on the roof.
- ▶ What would it take for this sentence to be true? (Tarski's schema)

Truth and truth-conditions

- ▶ Is this sentence true?

(3) A pink elephant is sitting on the roof.

- ▶ What would it take for this sentence to be true? (Tarski's schema)
- ▶ A uniquely human ability: compute truth-conditions of sentences we've never heard before. A major goal of the class: *understand this ability.*

Compositionality

- ▶ How do we compute truth-conditions?

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- ▶ You probably haven't heard this sentence before, but what have you heard?

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 - ▶ “is”, “sitting”
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Compositionality

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(1) A pink elephant is sitting on the roof.

- ▶ You probably haven't heard this sentence before, but what have you heard?
 - ▶ “roof”, “elephant”
 - ▶ “pink”
 - ▶ “is”, “sitting”
 - ▶ “a”, “the”, “on”
 - ▶ “the roof”
 - ▶ “on the roof”
 - ▶ “a pink elephant”
 - ▶ etc.

Compositionality

- ▶ Natural language is interpreted *compositionally*.
- ▶ The meanings of the whole are determined by the meanings of the parts.

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- ▶ Natural language is interpreted *compositionally*.
- ▶ The meanings of the whole are determined by the meanings of the parts.
- ▶ Developing a theory of meaning:
 - ▶ Meanings of the parts (words, morphemes).
 - ▶ A theory of how they fit together.

Meanings of the parts (lexical semantics)

- ▶ What does “pink” mean?
- ▶ Native speakers: can check whether objects are pink or not.
- ▶ Content words as black boxes – use conceptual information to verify class membership.
 - ▶ Not a solution! A placeholder for a theory of concepts.
 - ▶ As stated, underemphasizes the linguistic components of content words.

A theory of how the parts fit together

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A theory of how the parts fit together

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- ▶ Roughly: check whether something is pink, and check whether it is an elephant. If both are true, it is a pink elephant.
- ▶ Do words always combine this way? (“alleged elephant”)

A theory of how the parts fit together

- ▶ What does “pink elephant” mean?
- ▶ Roughly: check whether something is pink, and check whether it is an elephant. If both are true, it is a pink elephant.
- ▶ Do words always combine this way? (“alleged elephant”)
- ▶ An inventory of *composition operations*, and a characterization of how they work.

A mathematical approach

- ▶ Use tools from set theory and logic to make our theory of meaning precise.
 - ▶ Richard Montague: there is no true line between formal languages (logics) and natural languages.
- ▶ Frege: meanings involve combinations of functions and arguments (“saturation”). Theory of functions?
- ▶ Next up: set theory!