

Semantics and pragmatics

LING 200: Introduction to the Study of Language

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March 2016

Outline

- 1 Implicatures
 - Grice
 - Conversational maxims

- 2 On sense and reference
 - Sentences and predicates
 - Lexical semantics

Slides credit: Jessica Coon, Rebecca Starr

Reminder: Semantic relations

Truth conditions

Knowledge of the truth conditions of two sentences guarantees knowledge of the **semantic relations** between them.

Semantic relations:

- entailment
- equivalence / synonymy
- contradiction
- presupposition

Reminder: Semantic relations

Entailment

- **A** entails **B** if whenever **A** is true, **B** is also true.
- Entailments disappear under negation.

- (1) a. Vlad ate an apple. entails...
b. An apple was eaten by Vlad.

Reminder: Semantic relations

Equivalence

- **A** is equivalent to **B** if whenever **A** is true, **B** is also true, and whenever **B** is true, **A** is also true.
- Equivalent sentences entail each other.

- (2) a. An apple was eaten by Vlad. is equivalent to...
b. Vlad ate an apple.

Reminder: Semantic relations

Contradiction

- **A** contradicts **B** if whenever **A** is true, **B** is necessarily false.

- (3) a. Vlad did not eat an apple.
b. Vlad ate an apple.

contradicts...

Reminder: Semantic relations

Presupposition

- Presuppositions are the background assumptions we make about the “common ground” shared between conversation participants.
- Presuppositions survive (project past) negation.

- (4) a. Unicorns appeared in the lecture hall again. presupposes...
b. Unicorns appeared in the lecture hall once before.

Implicature



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Implicature

- **Entailment:** What you automatically know based on what someone says; what necessarily follows from a statement
- **Presupposition:** Information taken to be the common ground; a precursor to what you are going to say
- ➡ **Implicature:** What the listener can infer based on what the speaker says in a given context

H. Paul Grice 1913–1988



- A British philosopher of language whose work on **meaning** has been very influential in semantics and pragmatics
- We are especially interested in his theory of **implicature**

Implicature

Grice's idea

- People use language *cooperatively*
- This doesn't just apply to people who are actually cooperating, say to get something done...
- Even people who are in conflict behave as cooperative speakers and listeners



Maxims

Grice's Maxims

- Grice identified **four basic types of assumptions** that speakers and listeners make
 - He called these **maxims**—they are stated as rules, but these are different from phonological rules of syntactic rules (e.g. nasal place assimilation)
- ➡ Speakers can disobey these “rules”, and still form perfectly grammatical sentences
- Instead, the rules tell us what the hearer **assumes** the speaker to be doing

Maxims

I. *The Maxim of Quality*

Try to make your contribution one that is true, i.e.

- Do not say what you believe is false.
- Do not say that for which you lack adequate evidence.

II. *The Maxim of Quantity*

- Make your contribution as informative as is required (for the current purposes of the exchange).
- Do not make your contribution more informative than is required.

Maxims

III. *The Maxim of Relevance*

Make your contributions relevant.

IV. *The Maxim of Manner*

Be perspicuous, and specifically:

- Avoid ambiguity.
- Avoid obscurity.
- Be brief.
- Be orderly.

Maxims

- **The idea:** A listener can assume as a baseline that the speaker constructs a sentence with these principles in mind: tell the truth, say something on topic, tell enough information, but don't tell too much...

An example:

(5) Relevance

A: Can I have a ride home?

B: My car's right out front.

implicature: yes

- ▶ **B** can make the inference that the answer is *yes* based on the assumption that **A** is saying something relevant.

Implicature

3 characteristics of implicature:

- 1 Implied, not said; Speaker A did not actually say “yes”
- 2 The meaning is the result of the context—“my car’s out front” doesn’t necessarily mean you can have a ride home
- 3 Implicatures are cancellable or **defeasible**

(6) Relevance

A: Can I have a ride home?

B: My car’s right out front. **But it’s low on gas and you live out of my way, so no.** *implicature cancelled!*

Implicature vs. entailment

- Note that it's not possible to cancel an **entailment**

(7) # I bought a puppy but I didn't buy an animal.

(8) # The essay was written by Anya, but Anya didn't write the essay.

- **Presuppositions** are also not cancellable:

(9) # The king of France is bald. . . and by the way, there is no king of France

(10) # Let's meet at the bar in Leacock, but there is no bar in Leacock.

- These all lead to contradictions—cancelling an implicature does *not* result in a contradiction

Implicature

(11) Quantity

A: Did you eat all the cookies?

B: I ate a few. **And those were great, so then I finished them off.**

implicature: no

- ➡ Note that B's answer is still technically *true* if B ate all the cookies—but it violates the maxim of *quantity*: say the most informative thing possible
- Like our implicature above, this implicature is *unsaid*, *context-dependent*, and *cancellable*

Implicature

Statement

Can you open the window?

Where's the salt?

I'm 5 feet tall.

Do you know what time it is?

Implicature

I want you to open the window.

... I'm doing a survey on student fitness.

Speaker wants salt.

... I'm making a map of the kitchen.

Speaker is exactly 5 feet tall.

... in fact, I'm 5'4".

I want to know what time it is.

... I have a great watch you could buy.

Distinguishing the three...

Is **B** an **entailment**, a **presupposition**, or an **implicature** of **A**?

- Does **B** have to be true regardless of whether **A** is true or false (or questioned, or negated, etc...)?
 - **Presupposition!**
- Does **B** have to be true if **A** is true?
 - **Entailment!** (if it's not a presupposition)
- Does **B** have to be true if **A** is true? If not...
 - **Implicature!**

Practice

(12) Context: Richard won an award, but we see that he still hasn't picked it up. We are cleaning out the office...

“Richard doesn't know that he won the award.”

a. Richard won the prize.

presupposition

b. Someone should tell Richard.

implicature

(13) Context: My sister always picks me up after the night class we have together. You are about to get in your car...

“My sister isn't here this week.”

a. I want you to give me a ride home.

implicature

b. I have a sister.

presupposition

c. My sister is somewhere else.

entailment

Practice

(14) **“If Mary gets the grant, then she can finish her paper.”**

- a. Mary has started writing a paper. presupposition
- b. If Mary doesn't get the grant, she can't finish her paper. implicature

(15) **“Mike's wife bought a cat.”**

- a. Mike's wife bought an animal. entailment
- b. Mike is married. presupposition

Summary

Entailment, presupposition, implicature...

- **Entailment:** **A** necessarily follows from **B**
 - **Presupposition:** Assumed background information
 - **Implicature:** information you infer that is not necessarily said
- ➡ Know how to distinguish these!

Grice's conversational maxims

- “Rules” that speakers and listeners assume are being followed in order to make inferences

Outline

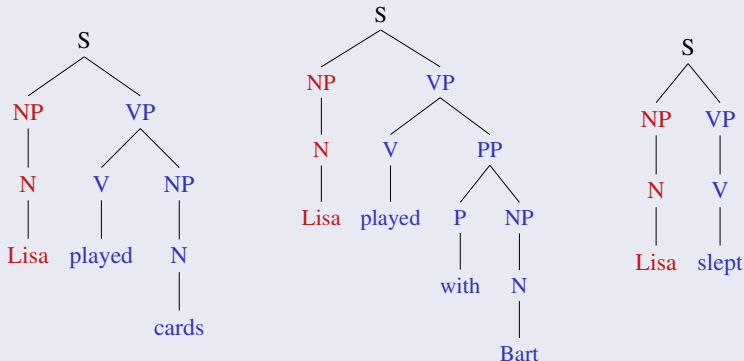
- 1 Implicatures
 - Grice
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- 2 On sense and reference
 - Sentences and predicates
 - Lexical semantics

Recall...

Subjects and predicates

- We have learned that a syntactically well-formed sentence in English must consist of an NP + VP.
- These can also be referred to as the **subject** and the **predicate**.



Recall...

Truth conditions

To know the **meaning** of a sentence is to know the *conditions under which it is true*, known as “truth conditions”

Truth conditions are...

- ... what it would take for the sentence to be true or false, what the world would need to be like in order for the sentence to be true or false

The extension and intention of a sentence

- The **intension** of a sentence = its meaning = its **truth conditions**
- The **extension** of a sentence in a given situation = its **truth value** (**True** or **False**) in that situation

➡ **Note:** we don't have to know *whether* the sentence is true or false to know its truth conditions

(16) The tallest building on campus has 15 floors.

Recall...

Predicates:

Predicates are lexical heads with their complements (if any) —VPs

- *purr, read the newspaper, study Linguistics, watch a movie*
- *be furry, be gray, be intelligent, be tall*
- *be a cat, be a student of linguistics, be a basketball player, be from Canada*

The extension and intension of predicates

- The **intension** of a predicate = its meaning = the conditions under which it applies to entities
- The **extension** of a predicate in a given situation = *the set of entities it applies to in that situation*

Words

What do we know about meaning?

(17) She has a pet dog.

- Assuming (17) is true, which of the following must be true?
 - (a) She has a pet animal.
 - (b) She has a pet poodle.
- (b) *might* be true, but (a) *must* be true.

Words

What do we know about meaning?

- We all share an understanding of the relationship of the three words “dog,” “animal,” and “poodle.”
 - All poodles are dogs, and all dogs are animals.
 - But not all animals are dogs, and not all dogs are poodles.
- This information allows us to understand that certain states must follow from certain assertions.
 - Someone who has a dog also has an animal.

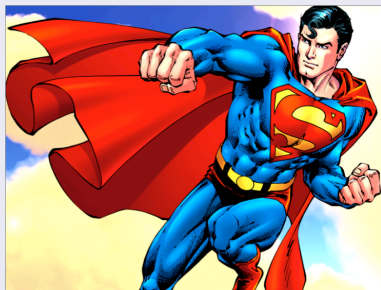
Lexical semantics

The meaning of words

- Lexical semantics refers to the study of meaning and words

What is the meaning of a word?

How can we conceive of word meaning? Let's consider the word *Superman*:
How can we explain what "Superman" means?



Lexical semantics

Proposal: meaning as a description

- “Superman: the alien from Krypton with superhuman powers who can fly and deflect bullets and goes by the alias Clark Kent...”
- In this proposal, how do we identify who is Superman?
- Quite simply, Superman is the person who meets this description of Superman.

Lexical semantics

Problem with this approach

- Let's say Superman gets hit by some unexpected Kryptonite and loses the ability to fly.
- He no longer fits our description of Superman.
- Is he still Superman?



Lexical semantics

Another problem with this approach

- If we simply say that the meaning of a word is a description, which is itself made up of words, this becomes circular.
 - If the meaning of “Superman” includes “superhuman”, then what is the meaning of “superhuman”?
- This approach never gets us out of the realm of language, so it cannot explain how languages connects to entities and states in the real world

Lexical semantics

Alternative approach: referent

- We would like the meaning of Superman to consistently pick out Superman, regardless of whether Superman changes states.
- Alternative: the meaning of Superman is his **referent** in the “real” world.*
 - Referent: the object or entity to which a word refers.
 - In other words, the physical guy, Superman, is the meaning of Superman.
- * By “real world” here, we mean the DC Universe where Superman exists.

Lexical semantics

Advantage of this approach

“Superman is flying overhead.”

- How can we check the truth of this statement?
- **Verification strategy:** We look overhead and check whether the state of the world is consistent with this assertion.
- Thus, our intuition is that the meaning of Superman here is connected to its referent, the physical Superman in the real world.

Lexical semantics

Advantage of this approach

- (a) Superman is flying overhead.
- (b) Clark Kent is flying overhead.

- If (a) is true, is (b) true?
- Yes, it must be true, because both Superman and Clark Kent have the same **referent**: they are the same person.
- But can we really say that *Superman* and *Clark Kent* “mean” the same thing?

Lexical semantics

Problem with referent approach

“Lois believes that Superman can fly.”

- Lois Lane is a reporter who is in love with Superman, but doesn't know he is the same person as Clark Kent, her co-worker. (She's not so bright)



Lexical semantics

Problem with referent approach

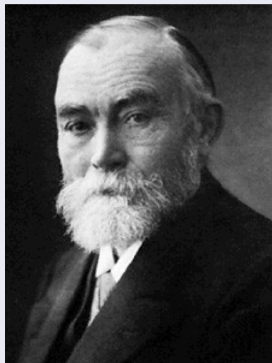
- (a) Lois believes that Superman can fly.
- (b) Lois believes that Clark Kent can fly.

- If (a) is true, is (b) true?
- No. Our intuition is that, if Lois Lane does not know that Superman is Clark Kent, (b) is not true even if (a) is true.
- But how is this possible?
- Using our referent as meaning approach, if (a) is true, (b) must be true, because Superman and Clark Kent mean the same thing.

Lexical semantics

A possible solution

- German philosopher Gottlob Frege famously proposed a solution to this puzzle:
- There are TWO aspects to meaning.
 - #1: **Reference** (the referent) = the **extension** of the word
 - #2: **Sense** (the way that the term refers to the referent) = the **intension** of the word
- So, if Lois Lane doesn't know that Superman is Clark Kent, for her the sense of "Superman" will be different from "Clark Kent," even though in the real world they have the same referent.



Lexical semantics

Review: reference vs. sense

- Do these pairs of expressions have the same reference and/or the same sense?
 - (a) The current prime minister of Canada
 - (b) Justin Trudeau
- Reference: the same
- Sense: not the same



Lexical semantics

On sense and reference

- What is the referent of:

“The current king of Canada”
- Canada doesn't have a king. So, there is no referent for this expression.
 - It is called a **non-referring expression**.

Lexical semantics

On sense and reference

- Frege argued that we can understand the sense of an expression without knowing what its reference is.
- We can even understand the sense of an expression that doesn't have a referent at all.
- So, **sense** and **reference** (or, **intension** and **extension**) are two separate aspects of meaning.
 - Just like we can know the **truth conditions** of a sentence without knowing the **truth value** of a sentence.
 - That is, we can know what the world would have to be like for a statement to hold, without knowing whether the world actually is that way.

Lexical semantics

On sense and reference

- A further puzzle:

“The current king of Canada is bald”

- Is this sentence true or false?
- Some argue that it is false, while others say it is neither.
 - A situation where a statement is neither true nor false is called a **truth-value gap**.

Lexical semantics

On sense and reference

- Certain expressions will always refer to the same thing (**constant reference**), while others will vary depending on who is speaking and other factors (**variable reference**).
- What do you think about these expressions:
 - (a) my friend — **variable**
 - (b) the current prime minister of Canada — **variable**
 - (c) the first prime minister of Canada — **constant**

Lexical semantics

On sense and reference

- Two aspects to meaning in language:
 - **Reference**: a corresponding referent in the real world (**extension**).
 - **Sense**: the way that the referent is referred to (**intension**).
- **Non-referring expressions**: still meaningful because they have a sense, although they have no referent.
- Reference can be constant or variable.

For next time...

- **Assignment 5** due March 9.
- ▶ **Read:** Parker & Riley , chapter 2 (pages 4-25), in course pack.
- **Next week: midterm 2.**
As with midterm 1, practice questions will be posted, and there will be a review lecture next Monday. The midterm will cover everything in syntax and semantics/pragmatics.