Today’s topics:
• Meaning relations among sentences
• Presupposition
• Cooperation in conversation

Background reading:
• CL Ch 6, §4; focus on 4.1 “Presupposition” and 4.4
0. Course information

• **HW #9 is now assigned**
  - Be sure to read instructions carefully
  - Note that part of your assignment is to find an example of language use in context and bring it to your recitation for discussion on Friday!

• **Registration for Fall 2019 is coming up**
  - We welcome new linguistics majors/minors
  - Fall 2019 — Core courses in phonology, phonetics, sociolinguistics
  - Fall 2019 — LING courses of special interest
0. Course information

• Special event: **Language Exchange**
  - F Mar 29 | 5:30-8:30pm | Imbibe (108 Henderson St)
  - Wear a sticker indicating the language you want to practice and talk with other interested people!
  - Recommended $5 donation goes to fund Spring Colloquium (annual linguistics conference)
  - Hosted by the Linguistics Graduate Student Association and Imbibe

- Link to Facebook page: [https://www.facebook.com/events/2178693569050624/](https://www.facebook.com/events/2178693569050624/)
1. Review: Intension and extension

- For a morpheme/word/phrase:
  - What is the intension?
  - What is the extension (in a given situation)?
1. Review: Intension and extension

- For a morpheme/word/phrase:
  - What is the **intension**?
    - *Qualifying characteristics*
  - What is the **extension** (in a given situation)?
    - *Set of entities/events/etc. that qualify*

- For a (declarative) **sentence**:
  - What is the **intension**?
  - What is the **extension** (in a given situation)?
1. **Review: Intension and extension**

- **For a morpheme/word/phrase:**
  - What is the **intension**?
    - = *Qualifying characteristics*
  - What is the **extension** (in a given situation)?
    - = *Set of entities/events/etc. that qualify*

- **For a (declarative) sentence:**
  - What is the **intension**?
    - = *Truth conditions (what would make it true?)*
  - What is the **extension** (in a given situation)?
    - = *Truth value (TRUE/FALSE)*
2. Meaning relations among sentences

- Now that we have an explicit characterization of sentence meaning, we can examine ways in which the meaning of one sentence relates to the meaning of another
  - entailment
  - paraphrase
  - contradiction
2. Meaning relations among sentences

• From *CL*, p 222:
  “When the truth of one sentence guarantees the truth of another sentence, we say that there is a relation of **entailment**.”

• What does “guarantees the truth” mean here?
  → Consider: We are talking about **truth conditions**

• What kind of **explicit procedure** could we follow in order to determine whether sentence A entails sentence B?
2. Meaning relations among sentences

- A more explicit definition of **entailment**: Sentence A entails sentence B if in all situations where sentence A is true, sentence B is also true.
  - What kind of evidence do we have to provide to show that entailment does not hold in some case?

- Does sentence (1) entail sentence (2)? Does sentence (2) entail sentence (1)?
  
  **(1) Linus ate a sugar-covered doughnut.**
  
  **(2) Linus ate something sweet.**
2. Meaning relations among sentences

• From *CL*, p 221:
  “Two sentences that have essentially the same meaning are said to be **paraphrases** of each other.”

• Can we give a more explicit definition of **paraphrase**, in terms of **entailment**?
2. Meaning relations among sentences

• A more explicit definition of **paraphrase**: Sentences A and B are paraphrases of one another if A entails B and B entails A.

- What kind of evidence do we have to provide to show that two sentences are not paraphrases of each other?

• Are sentences (3) and (4) paraphrases of each other?

  (3) Lucy ate the last piece of pizza.
  (4) The last piece of pizza was eaten by Lucy.

• How about sentences (1) and (2) above?
2. Meaning relations among sentences

• From *CL*, pp 222–3:
  “Sometimes, it turns out that if one sentence is true, then another sentence must be false. [...] When two sentences cannot both be true, we say that there is a contradiction.”

• Can we develop a more explicit definition for *contradiction*, inspired by the way we have defined entailment?
2. Meaning relations among sentences

• A more explicit definition of **contradiction**: Sentence A and B are contradictory if there is no situation in which both A and B can be true.
  - What kind of evidence do we have to provide to show that two sentences are *not* contradictory?

• Are sentences (5) and (6) contradictory?

  (5) *The present king of France is bald.*
  (6) *France is a republic.*
2. Meaning relations among sentences

- What is all this stuff good for? When might we care whether one sentence entails another, or one sentence contradicts another?
2. Meaning relations among sentences

- How about legal situations, such as...
  - legislation
  - contracts
  - testimony in court
  - claims of false advertising
  - ...

3. Entailment and advertising claims

- One popular advertising technique is the use of language that tries to sound like it’s making a stronger claim than it actually is.

- It can be interesting to look carefully at the language of an advertisement and try to determine what claims are actually entailed.
3. Entailment and advertising claims

- Example:
  
  (7) *No other chewing gum keeps your breath fresh longer!*

  - What might the ad like you to conclude?
  - Is this conclusion **entailed** by the language in the ad? Can you prove whether it is?
3. Entailment and advertising claims

• Example:

(8) Everything in the store is up to 75% off!

- What might the ad like you to conclude?
- Is this conclusion **entailed** by the language in the ad? Can you prove whether it is?
4. Pragmatics: Language in context

• How is it possible for people to use language in ways that communicate more than what is said?

• This is part of the linguistic subfield of **pragmatics**, the study of **language meaning and use in context**

• Two ways that people can use language to communicate more than what is literally stated or asserted
  - Presupposition
  - The Cooperative Principle in conversation
5. Presupposition

• A special type of entailment is **presupposition**
  - As defined in *CL* (p 246): “the assumption or belief implied by the use of a particular word or structure”

• Here is a more explicit test for identifying presupposition:
  - Sentence A **presupposes** sentence B if **A entails** B and the **negation** of A also entails B

  - Careful: when “negating A,” use a negation that doesn’t put any special emphasis on *word choice*
5. Presupposition

• In these sentence pairs, does the first sentence presuppose the second?

(9) Maria **knows** that Linda likes basketball.  
(10) Linda likes basketball.

(11) Oscar **assumes** that Grover likes basketball.  
(12) Grover likes basketball.

(13) Linda ate **the** cookie.  
(14) There was a cookie (in the relevant context).

(15) Linda ate **a** cookie.  
(16) There was a cookie (in the relevant context).
5. Presupposition

• Presuppositions can be used to introduce information into a conversation without actually asserting that information

  A: Hi! How are you? I haven’t seen you in a while.

  B: Things are great. I went to the game yesterday.

• Suppose person A hadn’t known that there was a game yesterday. A now has a choice:
  - Accept “there was a game yesterday” as part of the common background knowledge
  - Challenge or question B’s presupposition, such as by asking for more information
5. Presupposition

• Why are so-called “loaded questions” not allowed in court?

   Lawyer: *Have you stopped embezzling money from your company?*

   Defendant: !?!

• What does the defendant need to say here (if he/she is actually innocent)?
   - “Air-quotes intonation” — is this a way of cancelling a presupposition?
5. Presupposition

• Thinking about presuppositions can make your writing more effective
  - Check your sentences to see if they are introducing presuppositions into the argument
  - In some cases, presuppositions are harmless
  - But sometimes, dragging too much in as “background knowledge” this way will make your audience feel confused or want to challenge you
6. The Cooperative Principle

• Consider the following conversation:

Editor: *I’m considering hiring your student, X, as a writer. What can you tell me about X?*

Writing teacher: *X has good handwriting, and always comes to class on time.*

• Did the teacher communicate anything useful?
  - What was it?
  - Was that information communicated directly through word and/or sentence semantics?
  - How did communication happen?
6. The Cooperative Principle

• A very influential approach to the question of how people communicate things in this way: The Cooperative Principle along with the four conversational maxims (H.P. Grice)

• Proposal: Human conversations operate according to the Cooperative Principle:

  “Make your contribution appropriate to the conversation.” (CL, p 249)
6. The Cooperative Principle

• Of course, it is not the case that everyone really is cooperative all the time

• But the idea is that people interpret what they hear based on the assumption that the other speaker meant to be cooperative

• Or sometimes, people act in a way that is obviously not cooperative in order to communicate something by doing that

• One basic way of conforming to the Cooperative Principle is to follow the four conversational maxims (*CL*, p 250):
6. The Cooperative Principle

Maxim of Relevance
Make your contribution relevant.

Maxim of Quality
Make your contribution true. (Do not say things that are known to be false, or for which you lack adequate evidence.)

Maxim of Quantity
Do not make your contribution more or less informative than is required.

Maxim of Manner
Avoid ambiguity and obscurity; be brief and orderly. ("Eschew obfuscation.")
7. Violating conversational maxims

• What happens if you violate a maxim, and you **hide** that fact from your conversation partner?
  
  A: *Did you eat the last cookie?*
  
  B: *No.* [when B did in fact eat the last cookie]
  
  - Violation of the Maxim of Quality (untrue)

  → Deception!
7. Violating conversational maxims

• What happens if you violate a maxim, but that fact is completely **obvious**?
  → The assumption that you are following the Cooperative Principle overall still holds!
  - This is a means of **indirect communication**

• Consider the following example:
  Which maxim(s) is/are violated, and what does that violation actually communicate?
7. Violating conversational maxims

Editor: *I’m considering hiring X as a writer. What can you tell me about X?*

Writing teacher: *X has good handwriting, and always comes to class on time.*

- Relevance?
- Quality?
- Quantity?
- Manner?
7. Violating conversational maxims

Editor: *I’m considering hiring X as a writer. What can you tell me about X?*
Writing teacher: *X has good handwriting, and always comes to class on time.*

- The teacher is violating the maxim of **Quantity** (not giving enough information) and the maxim of **Relevance** (giving irrelevant information)
  - This strategy generally communicates, “I have nothing good to say about X as a writer”; that is, “Anything *relevant* I could say would not be in X’s favor”
7. Violating conversational maxims

- Blatantly violating ("flouting") a conversational maxim often indicates:
  - politeness or indirectness (as in indirect requests, or avoidance of directly stating unpleasant information)

- Sarcasm often involves blatantly violating a maxim — often Quality
8. Advertising, revisited

• Recall this example from earlier:

(8) Everything in the store is up to 75% off!

→ Desired conclusion: “Everything/most things are actually 75% off”

- We saw before that this conclusion is not entailed by the language in the ad

• What maxim(s) of conversation would encourage the consumer to draw these conclusions?