Language and Mind
HONR 218L

Class #7
Mini Primer on Pragmatics
Intro to Syntax

Should we move the midterm?
To Monday, March 7th

Pragmatics & Computers

What Computers Can Do

- **follow rules**: such as phrase structure rules
- **use brute force**: such as searching through piles of data and applying statistics
What Computers Can’t Do

• make inferences without a set of rules to follow

• reason about the world around them without some codified version of the facts about “the world”

Inference and Reasoning

• inference and reasoning come into play whenever we have conversations

• “Can you please pass the salt?”
  = “Pass the salt + [politeness]”

Pragmatics

• “Pragmatics has as its topic those aspects of the meaning of utterances which cannot be accounted for by straightforward reference to the truth conditions of the sentences uttered.” - Gazdar, G. 1979, Pragmatics: Implicature, Presupposition, and Logical Form.

Conversational Principles

• Grice: principles of conversation, based on the assumption of cooperative speakers

• “uncooperative” speakers: may wish to lie, be polite, be facetious, be humorous, be sarcastic, be ironic, be lawyers…
Maxim of Relation

- Be Relevant (no non-sequiturs)

- “Do you like peaches?”
  * “My cat’s breath smells like cat food.”

Maxim of Relation Violation

“A loaf of bread,” the Walrus said, “is what we chiefly need:
Pepper and vinegar besides are very good indeed
-- Now if you're ready, Oysters dear, we can begin to feed.”

“But not on us!” the Oysters cried, turning a little blue,
"After such kindness, that would be a dismal thing to do!"
“Then the night is fine,” the Walrus said, “Do you admire the view?”
- Lewis Carroll, *The Walrus and the Carpenter*

- The intent of the walrus: *to ignore the question*

Maxim of Quality

- Be True

- “Are you helping me out of the sheer goodness of your heart?”
  * “[shifty look] Why yes….yes I am.”

Maxim of Quality Violation

“I'll whisper it,” said the Messenger, putting his hands to his mouth in the shape of a trumpet, and stooping so as to get close to the King’s ear.
Alice was sorry for this, as she wanted to hear the news too.
*However, instead of whispering, he simply shouted at the top of his voice* “They’re at it again!”

- Lewis Carroll, *Through the Looking Glass*
Maxim of Quantity

• Give exactly the amount of info required

• “What time is it?”
  * “It is 3:30 in the afternoon on a Sunday during the very glorious month of January in the year of the monkey, according to the Chinese zodiac, though the Sumerian calendar claims…”

Maxim of Manner

• Be Brief and Orderly

• “Who is that?”
  * “The queen’s father’s grandson.”
  “You mean the prince?”

Maxim of Manner Violation

“And the moral of that is—“Be what you would seem to be”—or if you'd like it put more simply—“Never imagine yourself not to be otherwise than what it might appear to others that what you were or might have been was not otherwise than what you had been would have appeared to them to be otherwise.”

- Lewis Carroll, Alice in Wonderland

A Computer’s Trouble

• Be Relevant
• Be True
• Give exactly the amount of info required
• Be brief and orderly

• only the Maxim of Quality is easily defined
• the other maxims require knowledge about the world and expectations of speakers/listeners
Tracking Reference

"Do you know where the door to the Labyrinth is?", asks Sarah.
"Maaaaybe," says Hoggle.
"Well," says Sarah, "where is it?"
Hoggle ignores her.
"I said, where is it?"
Hoggle doesn't look at her. "Where is what?"
"The door!" says Sarah, impatiently.
"What door?"
Sarah storms off in frustration.

Speech Act Interpretation

• “Can you pass the salt?”
  * “Yes.”
  Not meant as a yes/no question.
  • “Can you pass the salt?”
    [hearer passes the salt]
    = “Pass me the salt” (command)

Speech Act Reasoning

• “Can you give me a list of flights from DC to London, please?”
  (example from Jurafsky, in Horn & Ward, Handbook of Pragmatics)

1. X has asked me a question about whether I have the ability to give a list of flights.
2. I assume that X is being cooperative in the conversation (in the Gricean sense) and that his utterance therefore has some aim.

Speech Act Reasoning

3. X knows I have the ability to give such a list, and there is no alternative reason why X should have a purely theoretical interest in my list-giving ability.
4. Therefore X’s utterance probably has some ulterior illocutionary point. What can it be?
5. A preparatory condition for a directive is that the hearer have the ability to perform the directed action.
6. Therefore X has asked me a question about my preparedness for the action of giving X a list of flights.
7. Furthermore, X and I are in a conversational situation in which giving lists of flights is a common and expected activity.

8. Therefore, in the absence of any other plausible illocutionary act, X is probably requesting me to give him a list of flights.

Scalar Implicatures: what’s implied by the use of a scale < … >

< or, and >
- “I want pearls or silver.”
  = “I don’t want pearls and silver.”

The Logic of Scale
- “and” is true in fewer possible worlds than “or”
- Therefore, “and” is more informative than “or”
- You use the most informative term you can, so using a less informative term on a scale (“or”) means you can’t use the more informative term
- Using “or” means the world where “and” is true is not the world you’re talking about
**Determiners**

"a(n)" vs. "the"

- uniqueness
- identifiability

"Hand me the owl."

"Hand me an owl. Now put the owl back."

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**Determiners & Presupposition**

"The king of New York is a coward."

- presupposition: something which is assumed to be true before the utterance is made
- presupposing existence: There exists a king of NY
- presupposing uniqueness: There’s just one.
- asserting cowardice
- presupposition failure: (no existence of king of NY)

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**Biased Questions**

"Do you really believe in fairies?"

"Don’t you believe in fairies?"

- Can’t just ask this out of the blue
- Requires: speaker’s belief that hearer does believe in fairies
  = tracking of the Common Ground (shared set of beliefs between speaker and hearer)

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**Rising Declarative Questions**

"Do you believe in fairies?" vs.

"You believe in fairies?"

- Rising declarative question expresses speaker’s belief that hearer believes in fairies.
  = tracking of the Common Ground (shared set of beliefs between speaker and hearer)
Things Not As Conveniently Code-able

- Things which rely on the somewhat amorphous Maxims
- “Is everything good?”
  “Well, everything’s not bad.”

$good \nleftrightarrow not\ bad$
expectation based: if good = not bad, second speaker would have agreed (Maxim of Manner)

World Knowledge

“You look a little shy; let me introduce you to that leg of mutton,” said the Red Queen. “Alice - Mutton; Mutton -- Alice.”

The leg of mutton got up in the dish and made a little bow to Alice; and Alice returned the bow, not knowing whether to be frightened or amused.

- Humor often results from the violation of expectations about how the world works or what one would normally believe given the circumstances

World Knowledge

“Begin at the beginning,” the King said gravely, “and go on till you come to the end: then stop.”

- Why is this humorous? What about world knowledge is violated? Is this something easily mapped to some pattern a computer could grab onto?
**World Knowledge - Expressions**

A frog walks in to a bank one day and asks the teller for a loan. The teller goes to the back and asks her boss what to do. The boss says, "Tell the frog to go see Patty Black at the loan desk." So she does, and the frog asks Patty for a loan. Patty asks if the frog has any collateral. The frog says, "I only have this plastic elephant."

So Patty goes to ask her boss what to do. She says, "There is a frog out here with a plastic elephant asking for a loan. What ever should I do?"

To which her boss responds, "It's a nick-nack, Patty Black, give the frog a loan."

**Metaphors Everyday**

Spatial orientation = mood, health

"Lucien was feeling pretty low."

"He came down with the flu."

"Lilya’s in top condition, however."

"She’s at the peak of her career."

**The Moral of the Story**

- If it can be explained as a set of rules which are easily followed, a computer can do it. This is what theory can help do - give us a rule set to describe some linguistic phenomena or action that we humans do all the time.

- Pragmatics is currently being explored and formalized in just these ways.