

Lecture 10 Language

→ Ladle Rat Rotten Hurt — sounds similar to a familiar story, but looks nothing like it. Understandable when spoken out loud! ... Wants pawn term, done worsted ...

* Language has redundancies!

And our brains do a lot to make sense of speech.

#1 Resolving Ambiguity

* Many types of ambiguity

- Lexical — same word different meanings

→ river bank vs. Commonwealth bank

- Structural

→ they were (playing cards) vs they were (playing) cards

- Acoustic

→ top vs pot

→ accents

* Context and disambiguation

* Priming — exposure of concept increases activation of related concepts

i.e. top-down expectation
approach reasonable activations



- Language illusions (parsing failure)

→ "Many gave the child the dog bid a bandaid"

→ "The horse raced past the barn fell"

#2 Language in Social Interaction

- * **Pragmatics** — implied meaning
- * **Gricean implicature** — sentence meaning \neq speaker meaning
 - * Conversational implicature — listeners construct speaker meaning from literal meaning
 - * Cooperative principle — people generally contribute to the conversation
- * **Gricean maxims** — speakers generally follow these principles
 - * Quality — tell the truth
 - * Quantity — give no more and no less info than necessary
 - * Relation — say things relevant to the conversation
 - * Manner — speak as clearly & unambiguously as possible
- * **Ways to use Gricean maxims (from 80-180)**
 - Violating — violate a maxim (tends to break conversation)
 - Floating — use a maxim for indirect communication

#3 How children learn words

- X Top-down
- ✓ Statistical pattern recognition! — $\left[\begin{array}{l} * \text{Transitional probability} \\ P(\text{a morpheme} \mid \text{previous morpheme}) \end{array} \right.$
- **Nonsense word pattern experiment** → constant stream of nonsense with pattern A, kids get bored, change order of syllables, they snap back to attention.
- **Motherese** — parents use inflections differently when talking to kids.

#4 Neural correlates with language

In brain:

- Broca's Area for grammar
 - Broca's aphasia people speak with meaning but not grammar
- Wernicke's Area for meaning
 - Wernicke's aphasia people speak nonsense but with good grammar

#5 Whorfian Hypothesis

Is cognition constrained by language?

- Authoritarian governments control people by removing the word "freedom"?