

Language

The Nature of Language

- Language: The use of an organized means of combining words in order to communicate
- Communication
- Thought
- Encompasses many forms of communication
 - Gestures, glances, touches

Distinctive Properties of Language

- Arbitrarily symbolic
 - Arbitrary relationship between symbol and referent
- Generative, productive
 - Users can generate new utterances

Distinctive Properties of Language

- **Dynamic**
 - Language constantly evolves
- **Communicative**
 - Permits us to communicate with those who share our language

Distinctive Properties of Language

- **Regularly structured**
 - Only particular arrangements of symbols have meaning
 - Different arrangements yield different meanings
- **Structured at multiple levels**

Language Comprehension: Morphemes

- **Meaning can be represented by breaking words into morphemes**
 - Stem words, prefixes, suffixes
 - Friend + ly
 - Un + friend + ly
- **Allows generation of novel words**
 - Children’s speech errors

Language Comprehension: Syntax

- Syntax helps us determine meaning
- The arrangement of words in a sentence
 - Determines the meaning of a sentence

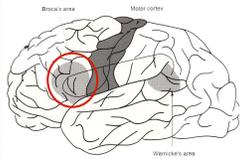
Language Comprehension: Grammar

- Grammar helps use determine meaning
- Grammar can not account for all aspects of our language
 - Can have meaningless grammatical sentences
 - Can have meaningful communication without producing grammatical sentences
 - Foreign language
 - Very young children

Semantics and Syntax

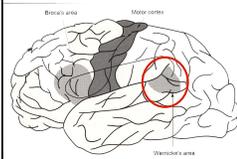
- Semantics (meaning) and syntax appear to be separable processes
- One area of the brain involved in producing grammatical sentences
 - Broca's area
- One area of the brain responsible for producing meaningful sentences
 - Wernicke's area

Broca's Area



- Broca's area
 - Speech production
- Broca's aphasia
 - Comprehension preserved
 - Impaired ability to produce grammatical sentences

Wernicke's Area



- Wernicke's area
 - Speech comprehension
- Production unaffected
 - Sentences grammatical
 - Semantic content affected
 - Jargon
 - Numerous neologisms

Phrase Structure: Parsing

- When we compose a sentence, we parse it
 - Assign syntactic categories to each sentence component
 - Use syntax rules
 - Construct grammatical sequences of parsed components

Phrase Structure Grammars

- How sentences analyzed into sequences of phrases
- How phrases parsed into syntactical categories
- Phrase-structure grammars
- Phrase structure rules
- Illustrated with tree diagrams

Tree Diagrams

- Show the hierarchical nature of sentences
- Highlight many aspects of how we use language
- Identify sources of ambiguity

Ambiguous Sentences

- Although he was continually bothered by the cold.....
 - Lexical Ambiguity
- Although Hannibal sent the troops over a week ago....
 - Surface Ambiguity
- Knowing visiting relatives could be bothersome.....
 - Underlying ambiguity

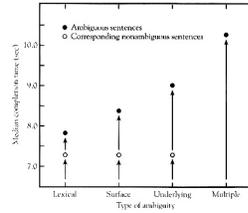
Makay (1966)

- Studied the effect of ambiguity on sentence completion
 - Ambiguous or unambiguous versions of the same sentence
 - Finish sentences as quickly as possible (RT)
 - Requirements
 - Short, grammatical, relate to beginning of sentence

•Knowing visiting relatives could be bothersome.....

Makay (1966) Results

- Results
 - No difference among unambiguous sentences
 - Differences among ambiguous sentences
 - Lexical
 - Surface
 - Underlying



Comprehension: Context

- Influences comprehension through word recognition
- Identify meaning of ambiguous word
- Concerns manner in which we combine words to form larger units

Context & Speech Perception

- Perceive speech as sets of words
 - Really an unbroken stream of sounds
- Phoneme pronunciation varies across individuals

Warren (1970)

- Phonemic restoration
- “The state governors met with their respective legi*latures convening in capital city.”
- * = cough lasting .12 seconds
 - 19/20 Ss reported hearing no missing sound

Phonemic Restoration (Warren & Warren, 1970)

- **It was found that the *eel was on the axle.**
- **It was found that the *eel was on the shoe.**
- **It was found that the *eel was on the orange.**
- **It was found that the *eel was on the table.**

Factors Affecting Comprehension

- Negatives
 - Harder to understand
 - Clark & Chase (1972)
 - Ss responded more quickly if responses were affirmative
 - Understanding decreases as number of negatives increases
- +

Comprehension: Passive Voice

- Comprehension
 - More difficult in passive
- Active voice is more natural.
 - Transformation to passive form requires additional words
- Active voice used 7 times as frequently as passive voice
- Tend to understand 95% of sentences in active voice, 81% of sentences in passive voice

Forming Coherent Representations of Text

- Must actively process incoming information
 - Involves assumptions
- Grice
 - Communication involves cooperative principles
 - Formulated to explain the types of assumptions made during communication

Pragmatic properties

- Common ground
 - Share similar knowledge of conversational topic
- Evidence of understanding
 - Clarification with lack of understanding
- Not all collaborative conversations succeed

Pragmatic properties

- Conversational format
 - Don't speak at the same time
 - Short pauses between speakers
 - Highly structured conversational closing

Pragmatic properties

- Indirect speech acts
 - Syntax does not match intended meaning
- Gibbs (1986)
 - Anticipate potential obstacles to requests
 - Phrase statement accordingly
 - Polite
 - Warns others in advance about request

Grice's Maxims

- Maxim of Quantity
 - Be as informative as required by the situation
- Maxim of Quality
 - Be truthful
- Maxim of Relation
 - Be relevant
- Maxim of Manner
 - Avoid obscure expressions, vagueness
 - Do not obscure the point

Violation of Grice's Maxims

- Assume speaker is "opting out" of maxim
- Assume speaker is deliberately and secretly subverting maxim
- Assume speaker failed to observe maxim through ineptitude
- Assume additional meaning
- Assume conflict between maxims
