



Early Communication



- Crying (Birth ?)
 - Universal
 - Intentional vs Unintentional
 - Communicative Function



Cooing



- ▶ Around 1 month
- "uh" sound
- ▶ Consists of all possible phones
- ▶ Universal: All cultures, deaf babies too!

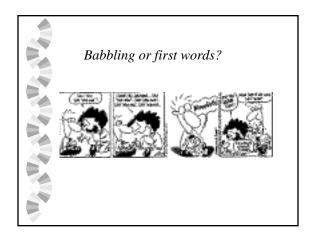


Babbling



Rahahahahah

- ▶ Around 6 months
- ▶ Consonant and vowel sounds
- ▶ Preference for native language sounds
- **▶** Speech-like intonations
- ▶ Deaf babies don't verbally babble



One-word Utterances

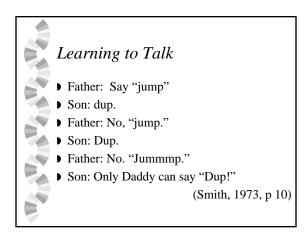
- ▶ Around 1 yr of age
- ▶ Usually concrete nouns (English Speakers)
- ▶ Selective choose most informative word

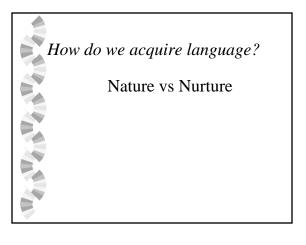


Ball!

Telegraphic Speech

- ▶ 1 3 yr
- Omit non-essential words (a, the, etc)
- ▶ Overextensions & Underextensions
- ▶ Basic grammar word order
- ▶ Pronunciation difficulties







Theories of Language Development



- Nurture
 - Theories
 - Imitation
 - Conditioning
 - Problems
 - Systematic errors
 - Novel Production
 - Universal Characteristics



Words for Mother and Father in different languages

English	mama	dada
German	mama	Papa
Hebrew	eema	Aba
Hungarian	anya	Apa
Navajo	ama	Ataa
South Chinese	umma	baba
Taiwanese	amma	aba



Theories of Language Acquisition

- ▶ Nature (Innate)
 - Language Acquisition Device (Chomsky)
 - Assumptions
 - Innate knowledge of Universal Grammar
 - Language learning = tuning
 - Problems
 - Very distinct grammars
 - Example: "a" and "the" in English, African languages determined by tone patterns; Japanese & Chinese determined context determined



Distinct Grammatical Forms

English	"The" and "a"
Finnish	En attached to front or
	back of noun
Hungarian	Verb-direct object order
Some African Languages	Tonal Properties
Japanese & Chinese	Context



• Special Acquisition Mechanism

- Evidence
 - Several physiological structures just for language
 - Desire to learn language fundamental
 - Self-motivating
 - Robust
 - Brain Specialization
 - Damage to left harms language more than right (not just verbal)
 - Damage to Broca vs Wernicke's Area
 - Language areas generally absent in non-humans



• Problems with Nature Argument

- Critical Periods
 - Window of opportunity for full acquisition of language skills
 - Cooing and babbling stages critical for discriminating and producing phonemes
 - Syntax Acquisition ASL & second language learning data
 - Isolated children Genie, Wild Boy of Avrignon



Integration of Nature and Nurture

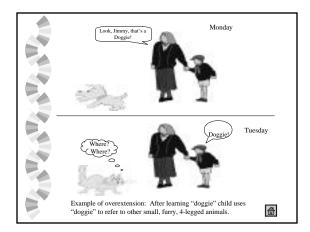
▶ Hypothesis Theory

- Patterns of change in the form of words
- Morphemic inflections that change meaning
- Sequences of morphemes and word order
- ▶ Newport's Selective Attention Model
 - Focus on perceptually salient properties
 - Abstract patterns



Meaning: Early words and word meanings

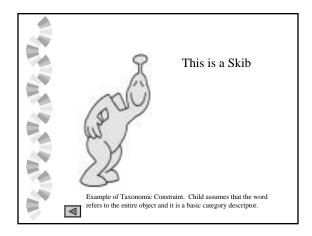
- Overextensions
 - One name to extended to multiple objects
- ▶ Underextensions ***
 - Bottle only refers to baby's bottle, not Coke bottle or water bottle
- Overlap
 - "Umbrella" refers to umbrella only when open but also refers to kite, leaf used to block rain in story, etc

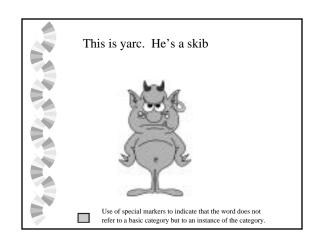


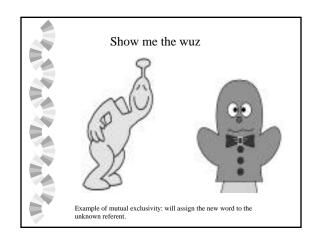


Vocabulary Acquisition

- ▶ Strategies (Constraining Possibilities)
 - Taxonomic Constraint
 - Infer that word refers to basic class of objects
 - Special markers
 - indicate lower or higher category level
 - Use known concept to define new.
 - Mutual Exclusivity
 - Infer that words refer to non-overlapping sets.
 - Acquired at 2 1/2 yrs



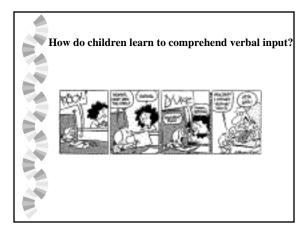




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Summary

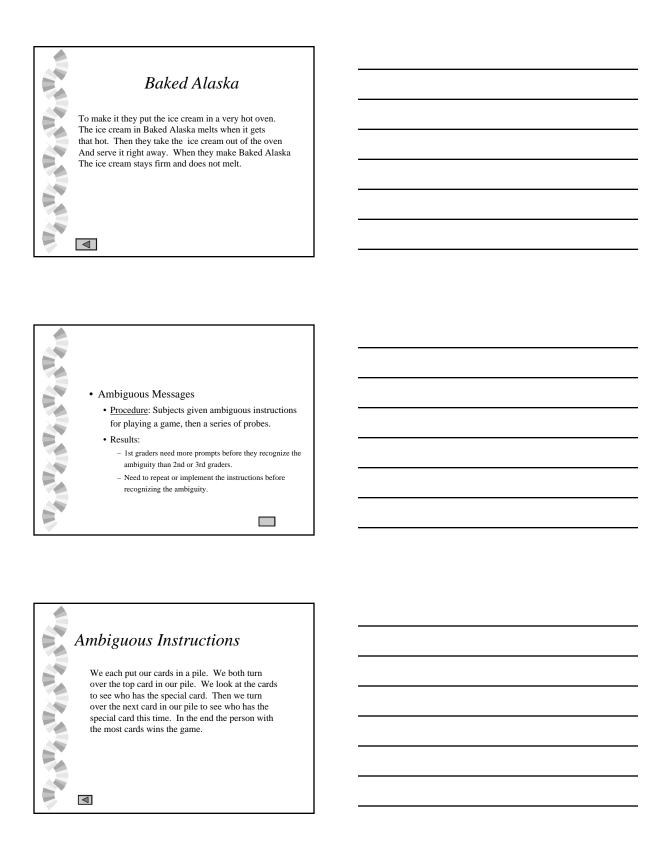
- ▶ Children's early use of words can be overextended or underextended.
- Strategies that constrain possible word meanings help children to rapidly acquire new vocabulary.
- ▶ Parents/adults often provide cues to help children map the referent to the word





Verbal Comprehension

- Development of Comprehension Monitoring
 - Contradictory Messages
 - Procedure: Subjects read a passage that contains an internal contradiction. (Baked Alaska passage)
 - Results:
 - Over half of 8 year olds fail to detect the contradiction.
 - This is despite being warned about possible inconsistencies





What affects verbal comprehension?

Strategy Use

- Superficial processing not constructive.
- Failure to mentally step-through the instructions/procedure as it is presented.
 - Can detect problems when asked to repeat or enact them
 - Reduction in comprehension failure when instructions are accompanied by a demonstration. (off-loads the processing demands)



Verbal Fluency

- ▶ Various word production tasks
 - Initial-letter Task
 - Attribute Task
 - · Rhyming Task
 - Feature Task
 - General Findings
 - Older children better than younger
 - Girls perform better than boys
 - Systematic strategy use led to better performance



Summary

- Children acquire strategies that aid in vocabulary development, verbal comprehension and verbal fluency.
- ▶ As strategies become more systematic, performance improves.



Semantics - Acquiring Meaning

- ▶ Componential Theory of Meaning
 - Concepts are made up of defining characteristics
 - All the defining characteristics are necessary and sufficient for defining the concept.
 - Example: Husband adult, male, married



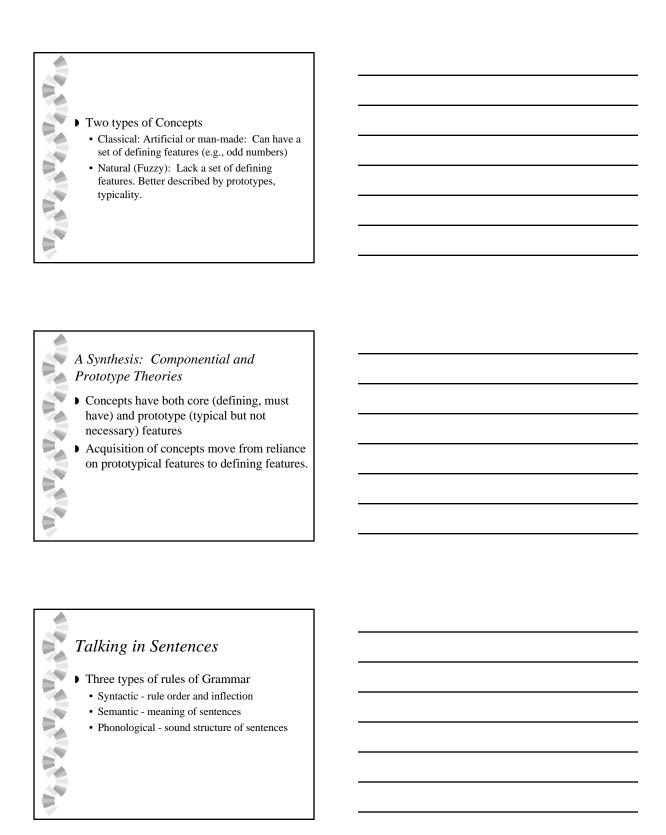
▶ Problems

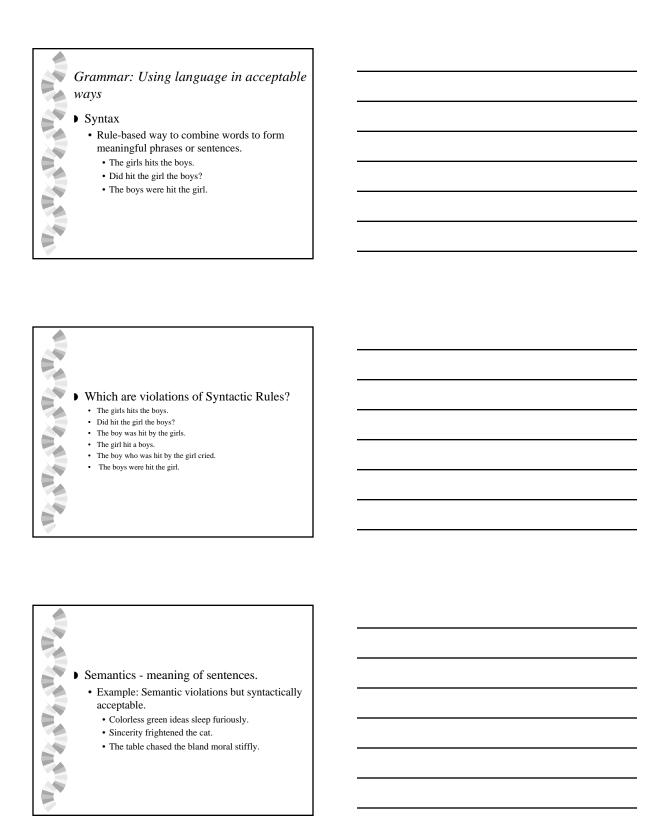
- · Lack of defining features
 - What are the defining features of "game"
- Violations of defining features acceptable.
 - Cat without fur, bird that can't fly, etc
- Some category members "better" than others
 - Typicality ratings vary for different members

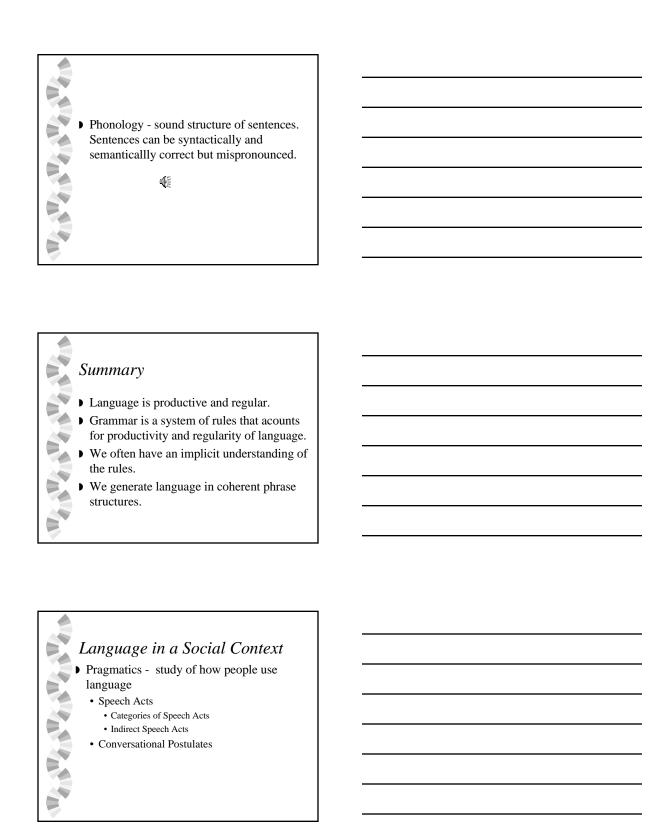


▶ Prototype Theory

- Meaning based on characteristic features
- Characteristic features common, not necessary.
- Family resemblance number of characteristic features an item has indicates its typicality.
- Exemplars: Multiple prototypes









Speech Acts

- ▶ What can speech accomplish?
 - Categories of Speech Acts
 - Representative Statement of belief
 - Directive Get listener to perform an act
 - Commissive Committing to future action
 - Expressive Reference to psychological state
 - Declarative causes a new state of affairs



▶ Indirect Speech Acts

- Abilities
 - "Honey, is it the night to take out the garbage?"
- Desire
 - "I'd really love it if you took out the garbage"
- Future Action
 - "Would you take out the garbage?"
- Reasons
 - "The garbage needs to go out tonight."



Conversational Postulates

- ▶ Four Maxims of Conversation
 - Quantity: Be as informative as needed.
 - Quality: Truthfulness, say what you believe.
 - Relation: Relevant
 - Manner: Be clear

