

## Language development

IIE 366: Developmental  
Psychology  
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Lecture 21

## 9.1 The Road to Speech

Elements of Language  
Perceiving Speech  
First Steps to Speech

## 9.1 Elements of Language

- *Language*: a system that relates sounds (or gestures) to meaning
- *Phonology*: sounds of a language
- *Semantics*: study of words and their meanings
- *Grammar*: rules used to describe the structure of a language
- *Pragmatics*: how people use language to communicate effectively

## 9.1 Perceiving Speech

- *Phonemes* are sounds that are the building blocks of language
- Young babies can hear phonemes, even those not in their language
- Infants can identify individual words
- *Infant-directed speech* may help children learn language
- Cochlear implants improve language development in deaf children

## 9.1 First Steps to Speech

- 2 months: *cooing* (vowel-like sounds)
- 6 months: *babbling* (speech-like sound that has no meaning)
- 8 to 11 months: babbling includes *intonation* (rising or falling pitch) and is influenced by the speech they hear
- First words appear around first birthday

## 9.2 Learning the Meanings of Words

Understanding Words as Symbols  
Fast Mapping Meanings to Words  
Individual Differences in Word Learning  
Encouraging Word Learning  
Beyond Words: Other Symbols

## 9.2 Understanding Words as Symbols

- Infants understand that words are symbols (something that stands for something else)
- Gestures are symbols that children start to use around the time they begin to talk

## 9.2 Fast Mapping Meanings to Words

- Children learn words too rapidly (*naming explosion*) to be starting from scratch on each one
- *Fast mapping*: learning word meanings so rapidly that the child can't be considering all possible meanings
- Joint attention, constraints on word names, sentence cues, and cognitive growth help children learn word meanings
- *Underextensions* and *overextensions* are two common naming errors

## 9.2 Individual Differences in Word Learning

- Wide range in vocabulary development largely accounted for by child's language environment and phonological memory
- Children also have different styles of learning language: referential and expressive
- *Referential style*: vocabularies consist mainly of words that name objects, persons, or actions; language as an intellectual tool
- *Expressive style*: vocabularies include social phrases used as a single word (e.g., "go-away," "I-want-it"); use language as a social tool

## 9.2 Encouraging Word Learning

- Speak frequently, but *with* not *at* children
- Name objects that are the focus of child's attention, use speech that uses different words and is grammatically sophisticated, and respond promptly to child
- Read books and ask children questions
- *Sesame Street* helps (because it's interactive)
- Bilingual children learn language as rapidly as monolinguals

## 9.2 Beyond Words: Other Symbols

- Children learn other symbol systems as they grow, such as pictures and scale models
- By 18 months toddlers understand that photos are *representations* of objects
- 3-year-olds understand relation between scale models and objects they represent
- Other symbolic forms learned later include maps, graphs, and musical notation

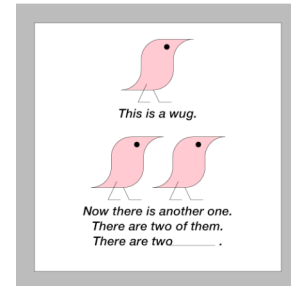
## 9.3 Speaking in Sentences

From Two-Word Speech to Complex Sentences  
How Do Children Acquire Grammar?

### 9.3 From Two-Word Speech to Complex Sentences

- Speech is often *telegraphic* in 2-year-olds
- Gradually add *grammatical morphemes* (words or endings of words that make a sentence grammatical)
- Easiest morphemes mastered first

### "Wug" Stimuli



9.3: From Two-Word Speech to Complex Sentences

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- Gradually add *grammatical morphemes* (words or endings of words that make a sentence grammatical)
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- Mastery of grammar by rule-based learning, so errors of *overregularization* occur

### 9.3 How Do Children Acquire Grammar?

- Language input is important but learning is more than just imitation—children produce novel sentences and children's speech has its own grammar
- Neural mechanisms help children find regularities (specific brain regions, critical period)
- Grammar may be learned through powerful cognitive skills that detect regularities in the environment
- Language and grammar mastered in the context of social interactions

### 9.4 Using Language to Communicate

Taking Turns  
Speaking Effectively  
Listening Well

### 9.4 Taking Turns

- Even before children speak, parents model turn-taking (at least in developed cultures)
- By 2 years, spontaneous turn-taking occurs
- By 3 years, children will try to elicit a response if listener fails to respond

### 9.4 Speaking Effectively

- Toddlers' first conversations are about themselves
- Preschoolers adjust their speech based on the age and needs of the listener and context
- School-age children speak differently to adults and peers
- African American children may switch back and forth between African American English and standard English
- Preschoolers understand that when listeners misunderstand, speaker needs to do something

### 9.4 Listening Well

- Preschoolers often don't detect ambiguities in messages or they assume they understood the speaker's intent
- Preschoolers are more likely to believe confusing statements or statements that contradict their beliefs when told by a parent instead of a classmate
- Understanding of non-literal meaning (sarcasm and metaphor) develops slowly

### Next time

- Special types of language
- Deaf children
- Specific language impairment