


LANGUAGE ACQUISITION

NATURE, NURTURE, PHONEMES, MORPHEMES, AND SYNTAX




NOAM CHOMSKY

- 1959, in a review of Skinner's book, argued that language is not a form of verbal behavior; children learn complex and abstract structures without explicit instruction or correction. (Compare *Ways with Words*)
 - Chomsky argued that language acquisition was distinct from general intelligence
 - Later neurological research into strokes and diseases demonstrated that people with impaired language could be fluent at language, while people with the physical inability to speak could have high levels of intelligence.
 - Thus, Chomsky's hypothesis of separate language acquisition 'modules' appears to be supported by empirical cognitive evidence.
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WHEN DO HUMANS ACQUIRE LANGUAGE?

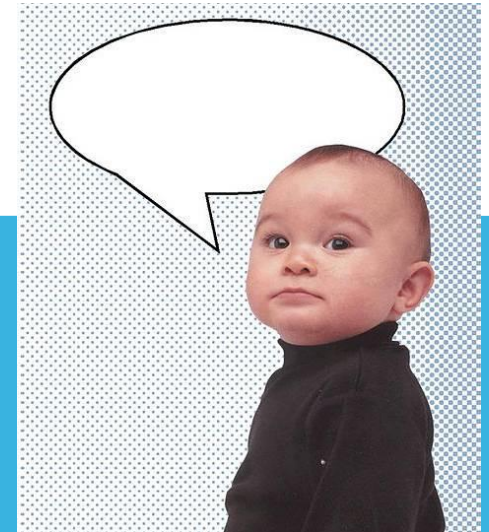
- Synapses develop rapidly, peaking between 9 mos. & two years (child then has more synapses than an adult); synapses wither from age 2 till adolescence, when they settle at adult levels.
- Metabolic activity in the brain peaks around age 4
- Huge numbers of neurons die off *in utero* through age 2, leveling off around age 7.
- Successful language acquisition happens by age 4, is guaranteed up to age 6, tails off from there until puberty, and is relatively rare as an adult.
- Adults who suffer brain injuries to language-controlling areas of the brain are sometimes able to require most of their linguistic abilities. Rep. Gabby Giffords is an example of this.

MORE IMPORTANTLY, HOW DO THEY DO THIS?

- Evolutionary adaptation of mind and body to produce speech
 - In first year, familiarity with sounds to determine what is phonemic; development of muscular control to produce speech
 - From 10 mos to age 1: first words
 - Around 18 mos.: vocabulary expansion & primitive syntax (2 wd strings, SVO awareness), comprehension of syntax
 - Terrible 2s to mid-3s: syntax blooms, doubling monthly; questioning and complex sentences, function words, awareness of irregular verbs; beginnings of inflectional rule awareness
 - Most of discourse follows grammatical rules (not grammar rules)
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WHAT ENVIRONMENTAL ELEMENTS CONTRIBUTE TO A CHILD'S L.A.?

- Linguistic input—must be exposed to some kind of speech, though not necessarily a full-fledged language (pidgins → creoles)
- Need some sense of what is 'grammatical' (either positive or negative evidence) (Again, think about *Ways With Words*.)
- Need prosody but not necessarily parental feedback
- “Motherese” neither help nor harm, apparently
- Context-dependent cues, especially for word-building and syntax shaping



THE IMPORTANCE OF SOUNDS

- As infants, learn that sounds have meaning
- Often start speaking by repeatedly babbling sounds—often combinations of two phonemes
- Learn to recognize minimal pairs of phonemes
- Learn which combinations of sounds are meaningful and which combinations are impossible
- If language is highly inflected, may also start to learn to distinguish pitch and articulation as well as shape




WORD BUILDING

- Begins (almost always) with root morphemes—but no clear pattern as to what kind of semantic units (could be nouns, verbs, adjectives, pronouns)
- First words often are for food items, body parts, clothing, vehicles, toys, people, animals—much is stimulated by their environments
- Early acquisition of words for social interaction (hi, bye-bye, peek-a-boo)
- As word strings develop, they learn word order rules rapidly (for instance modification, sequencing of derivational and inflectional affixes)



ACQUIRING SYNTAX

- Children acquire sense of rules and hierarchy of structures by listening to adults
 - Confusion often results from over-generalizing or over-applying rules (think about Piaget's developmental stages)
 - Child uses context and semantics to develop hypotheses about what is 'grammatical' for his/her language
 - Child appears to figure out categories of words & phrases (e.g. name words, action words, receiving words) from context and repetition
 - Learn a manageable # of syntactic patterns allowing innumerable grammatical combinations; sets parameters
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VOCABULARY

- Starts to blossom rapidly after 18 months
- Appears to be independent of age and neurological leveling; humans can acquire large amounts of vocabulary through most of life (barring dementia, Alzheimer's, or similar cognitive impairments)



CONNECTIONS TO WHAT WE'VE STUDIED SO FAR

- Word-building: Compounding, adding derivational affixes
- Understanding syntax
- Learning the varieties of language
- Code-switching
- Bilingualism, ages for language instruction



“Lahwaah, buwha buwhaah, gullygah abawaa mey ayeeyaah. Is that normal?”