Theories of Grammatical Development

CG45
Spring 2005
How did you learn grammar?
How did you learn grammar?

Monolingualism
Bilingualism
Second-language learning
Learning under exceptional circumstances
From words to grammar
The Data

R. Brown (1973)

Adam (2;3-4;10), Eve (1;6-2;3), Sarah (2;3-5;1)

Stages

Stage 1: 2-word sentences (MLU 1.75)
Stage 2: -ing, in, on, regular plurals (MLU 2.25)
Stage 3: irregular past, -’s, copula (MLU 2.75)
Stage 4: articles, -ed, 3rd person present (MLU 3.5)
Stage 5: 3rd person irregular, aux (MLU 4+)
Specificity vs. Generality

Many theories of language development are domain-specific
  Requires a language “module”
  Language independent of cognition
Others suggest that language learning can be explained by domain-general processes
  Social cognition
  Analogy
Principles & Parameters

Universal Grammar

Set of *principles* that govern human language
Common to all languages
Strength of “universal” varies by theoretician

Parameter Setting (Chomsky 1981)

Set of *parameters* give rise to different languages
Children learn their native language by simply adjusting their parameters based on the language that they hear
So what are they?

Some Principles
  Displacement
  Subject-before-object
  (No) questions by reversal

A Few Parameters
  SVO, SOV, VSO ("head-direction")
  PRO-drop
  Verb placement
  Inflection use
  Etc…. 
Continuity and Maturation

Continuity: Children have access to all principles and parameters from birth
  Cognitive and input factors influence expression

Maturation: Children gain access to some principles and parameters with age
  Likens acquisition of certain types of linguistic phenomena to physical maturation
Common Critiques

Both assume a biological basis of certain grammatical abilities
Supporting data is often based on somewhat infrequent and esoteric phenomena
Don’t address language-specific learning processes
Raises a very important question:

Just how much of language can realistically be genetically/biologically programmed?
Phydeaux

Pidgins

Rudimentary communication systems
Result from language contact, typically in unfortunate circumstances (but not always)

Creole Languages

Regularization (of morphology, syntax, etc.)
Haitian, Cajun, Gullah, Chicano, “Pidgin Englishes”....

Nicaraguan Sign Language
So how do we learn the settings?

Semantic Bootstrapping (Pinker 1984; 1989)
- Grammatical categories are innate
- Use “semantically simple” verbs to learn syntactic relationships of language
- Use innate linking rules to learn word meanings

A major issue
- How to assign words to innate categories: “The Linking Problem”
Syntactic Bootstrapping (Gleitman 1990)

Learning the meanings of verbs is hard
Learning nouns is easier
Maybe we use nouns and syntactic knowledge to work out meanings of verbs
Could also include use of function words to learn categories

A major issue
How do we get the (language-specific) syntactic knowledge?