Early Language Development

CG 63
Monday, 11/17/03
Major Themes

• Kids know more than they can produce!

• Kids talk funny!

• Kids are insensitive to overt correction

• Kids learn fast! (compare to L2 learners)

• Patterns of development

• What promotes development?
Learning Language

• Aspects of language development we’ve discussed:
  - Learning the sounds of the native language (by 12 months)
  - Learning the meanings of words

• Other aspects of language (there is more to language than isolated words!)
  - How we change the forms of words: MORPHOLOGY
  - How we put words together: SYNTAX
  - How we use language: PRAGMATICS
Early sensitivities to structure

**Perception**

- Prosodic boundaries sometimes delimit syntactic units:
  - By 4.5 mos, prefer to listen to speech with pauses inserted at clausal boundaries as opposed to within clauses (Jusczyk et al, 1992)
  - By 9 mos (not 6 mos) prefer to listen to speech with pauses inserted at phrasal boundaries as opposed to within phrases (Jusczyk et al, 1994)

- Initially, may be a general sensitivity to prosody:
  - Show same preferences with music and non-native languages
- With experience, becomes language specific
Early Morphosyntax Development

Perception

• Infants at 6 mos detect differences between word classes (Shi, Werker, and Morgan, 1999)

• By 13.5 months, infants display knowledge of common morphological stems (Morgan)

• By 18 months, infant recognize “is+ing” dependencies (Santelmann & Jusczyk, 1998)
Early Morphosyntax Development

Perception

• 18-25 month-olds who are not producing morphemes show sensitivity to presence of correct morpheme during comprehension (Gerken et al. 1993; Golinkoff et al., 2001)

Gerken et al:

Find bird for me.
Find the bird for me.
Find was bird for me.
Find gub bird for me.
Other syntactic sensitivities

Perception

• 16 month olds are sensitive to word order (Golinkoff & Hirsh Pasek, 1996)
  Find Cookie Monster tickling Big Bird vs.
  Find Big Bird tickling Cookie Monster

• By 28 months, sensitivities to more subtle information about syntax → syntactic bootstrapping (Gleitman and colleagues)
  “Find cookie monster and Big Bird squatting” (squatting independently)
  “Find Cookie monster squatting Big Bird”
  “Find Cookie monster squatting with Big Bird”
Early word combinations often express a few semantic relations (Brown, 1973): “Daddy car” (possessor: possession)
Early Morphosyntax Development

Production

Meaning is built compositionally: Larger units are combinations of these individual semantic relations:

\[
\text{eat} \quad \rightarrow \quad \text{I eat/ want eat} \quad \rightarrow \quad \text{I want eat}
\]
Early Morphosyntax Development

Production

• TELEGRAPHIC SPEECH: Omission of function morphemes
e.g. “Mommy go store”
   (not “Mommy is going to the store”)

• Why are these initially omitted?
  • Salience
  • Cognition
  • Communicative purpose
Early Morphosyntax Development

Production

• Order of acquisition (Brown, 1973): Sarah, Eve, & Adam all acquired morphemes in roughly same order
  -frequency in input?
  -grammatical complexity?
  -semantic complexity?

• Sources of individual variation
  -morphological characteristics of language
  -characteristics of the child
  -characteristics of the input
Early morphosyntax
Learning rules?
Production

• Productive knowledge of plural

WUG test (Berko, 1958)
Early morphosyntax
Learning rules?

Production

• U-shaped development of past-tense

I went  I goed  I went

% produced correctly

AGE
Learning rules?

HYPOTHESIS 1: Learning rules

Qualitative distinction b/w regular + irregular verbs

Acquisition:
1. Children initially memorize all forms
2. Children learn and overapply rule
3. Children learn exceptions that block the rule
Learning rules?

HYPOTHESIS 2: Input-driven learning
No qualitative distinctions b/w regular + irregular verbs

Acquisition:
1. Only general learning mechanisms (minimize error), no dedicated rule
2. Learning done on the basis of input alone
   - Generalization emerges from frequency in the input
   - Over-regularization due to high frequency of regular verbs
Early syntax

Learning more complex structures:

• Active vs. passive sentences

• Wh Questions:
  1) Where daddy go?
  2) Where daddy is going?
  3) Where is daddy going?

• Negation:
  1) No mommy do it
  2) Mommy no do it
  3) Mommy isn’t doing it
Summary of Morphosyntactic Development

- Early perceptual sensitivities
- Progression from less complex to more complex
- Rule-governed behavior?
- Information from a number of sources:
  - Semantic bootstrapping?
  - Syntactic bootstrapping?
  - Distributional analyses?
Early pragmatic and meta-linguistic competence

• Pragmatics
  - Understanding of how language is used (indirect utterances; non-literal utterances; establishing reference, sharing knowledge)

• Meta-linguistic awareness
  - Awareness of language as a system

  e.g. Papandropoulou & Sinclair, 1974
  Asked 5 to 6-year-olds to give examples of long and short words. Examples based on referent rather than form
  Long word = "Train"
  Short word = "Pebble"
Early pragmatic competence

- Egocentric language use (Piaget)
- Failure to take listener’s perspective:
  - e.g. failure to ensure referent is known before using pronoun
  - e.g. failure to give listener enough information to understand unambiguously

• But under certain circumstances, children can provide enough disambiguating information
Pragmatic competence
(Nadig & Sedivy, 2002)
Early pragmatic competence

• Word learning involves:
  - Joint attention to named object
  - Determining the referential intent of others (Bloom, 2002)

• Normally developing children assume that a spoken label applies to the object attended to by the speaker, regardless of the listener’s attention (Baldwin, 1991)

• Language delays in autism: Autistic children assume that label applies to the object they are attending to (Baron-Cohen et al., 1997)
Bilingual Language Development: One system or two?

- UNITARY HYPOTHESIS (Volterra and Taeschner, 1978)
Bilingual Language Development:
One system or two?

• DUAL-SYSTEM HYPOTHESIS
Bilingual Language Development:

• **Morphosyntactic development:**
  - Some morphological delay (when a feature only occurs in one language)
  - Some transfer (when structure is simpler in one language)
  - Development seems to parallel that of monolinguals

• **Lexical development:**
  - Seems to reflect input (depends on use)

• **Pragmatics:**
  - Young bilinguals can appropriately switch language as a function of listener’s language
  - Can repair communication breakdowns that result from inappropriate language choice at young age
  - Ask parents for translations