Prelinguistic Behaviors
When does Language Acquisition BEGIN??

Newborns (3 days old) Preference
- Mother’s voice
- Native Language

“Protoconversations”
- ’Turn-taking’ during breast feeding
- passive vs active
Speech Recognition: English

- Categorical Recognition (6-10 mo)
  - TA/DA or PA/BA
  - EEHHH/AHHH

Biological Capacity to recognize categories which will have linguistic significance
Speech Recognition (con’t)

Distinctions fade/ignored (10 mo)
  ba/pa in infants from spanish-speaking environments
  la/ra in japanese-speaking environments

*Bilingual Perception/Distinctions
Syntax Awareness

- 4 1/2 months: proper sentence endings
  - regardless of language

Jusczyk, 1991:

Sentences:
- At the bakery, workers will be baking bread.
- *On Tuesday morning, the people have going to work

Grammatical vs ungrammatical (18 mo.)
Early Production of Speech-like behaviors

- Infant Cry analysis
  - Communication intonation
  - 3-5 months vs 7-8 months

- Babbling
  - Play with sound alone
  - Variation
Vocal Babbling Stages

- 1 mo: cooing, vowel sounds
- 6 mo: CV babbling, play alone (including Deaf babies)
- 9-12 mo: overlap with first word
  - intonation patterns (lang)
  - complex sounds
  - Deaf babies stop

Relationship between Babbling and Speech?

Relationship between Babbling and Language?

- Early Brain imaging studies (Petitto, et al)
Summary: Prelinguistic

- 10 mo: infants affected by input
- Production: not seem as important
- ***Desire to communicate**
NEXT: Sign Babbling

- Research Questions
  - Are the innate abilities of language users specific to SPOKEN language and sparked into use only by speech?
  - Can sign language spark these innate abilities?

- If both: evidence of BRAIN based language capacity.
Research

- **SUBJECTS**
  - 5 infants @ 10, 12, & 14 months)
    - 2 DCDP learning ASL
    - 2 HCHP learning English
    - 1 HCHP learning French

- **DATA**
  - Natural and experimental
  - Manual activity=gestures/hand movements
Data: Manual Activity = gestures + babbling

Hearing babies
- gestures with meaning
- manual babbles 4-15% of manual activity
  - only 3 handshapes in 80% (F, O, bO)
  - 84% one movement
  - 100% in neutral space
- little variation and development

Deaf babies
- gestures with meaning
- manual babbles 32-71% of manual activity
  - 32% of ASL handshapes
  - 54% of ASL movements
  - 98% in neutral space
- continuation of preferences for first signs
Data: A Closer look

- Manual Babbling: “linguistically important handshapes/movements” “syllables”
  - 5, 5-claw, g, a a-thumbextend, s, B, I, F, C, O, bO, *A-thumb insert
  - Syllabic Babbling=2 hs repeated
Conclusions: Manual and vocal babbling

- Both between 0;4-1;0 similar time frames
  - Babbling occurs in phonetic/syllabic forms
  - Play-no communication/meaning intent
  - Infants look for language patterns in the environment
  - Babbling patterns help predict phonology of first sign/word

- THUS, stimulation of innate language abilities likely happen in LANGUAGES regardless of modality
final Thoughts…

- Interesting Fact
  - Deaf mothers responded to sign babbling with language…gestures with action…

- Limitations
  - Small sample…cross-linguistic sign
  - **Necessity** of babbling for language acquisition