Atypical Language Development

**Definition**
“a language disorder is the impairment or deviant development of comprehension and/or use of a spoken, written, and/or other symbol system.”

“The disorder may involve
   (1) the form of language (phonologic, morphologic, and syntactic systems)'
   (2) the content of language (semantic system, and/or
   (3) the function of language in communication (pragmatic system) in any combination

**Typology**
- atypical language development may occur in a wide range of contexts
- each type needs to be studied individually
- cause: dysfunction of brain centers for language and cognition

**Phonological Etiologies**
- fluency- rate & rhythm
- voice- larynx
- cleft palate- hypernasality
- dysarthria- execution of speech
- developmental phonology

**Fluency**
- motor vs. language problem
- transitional dysfluency around 3:0
- bilingualism: may occur in one language and not the other
- kinds of errors
   sound or syllable repetitions
   whole word repetitions
   sound prolongations
   pauses

Study: Child with transitional dysfluency
Examples:
   “what’s that?”
   “what’s going go in trash can?”
   “and why is he in there?”
36% of sentences with dysfluency
Part word repetition  21%
Whole word repetition  86%
Why was she dysfluent?
Conclusion for Fluency
- child was actively acquiring pronouns, verbs, conjunctions, auxiliaries
- processing ‘bottle neck’
- word repetitions occurred at places before these grammatical forms

*Developmental Phonology*
Delay: children have a late onset
Disordered: children show atypical patterns
- Lack of fricatives, e.g. data from I 'Frog'
  'I think him sailfish sam'
  'I call them, call them lemon phone'
- Problems with velar consonants
- Gross inclusion: errors across many phonemes, e.g. [t] for all fricatives
- Unique sounds (e.g., nasal snorts, lateral fricatives, ingressive [s])
- Prosodic Difficulties (e.g. stress, timing); data from M: epilepsy; excessive pauses, every two words or so; odd sentence patterns

One Possible Explanation
Word Stress vs. Sentence Stress
Word Stress is acquired
Sentence Stress is impaired
M applies word stress to sentences

*Language Etiologies*
- Specific Language Impairment
- Mental Retardation
- Autism
- Acquired Brain Injury
- Hearing Impairment

*Specific Language Impairment*
- Hearing within normal limits
- No organic abnormalities
- Cognition within normal limits
- Impairment specific to language
- Delay vs. Impairment
  Delay: late talkers
  Impairment: language not like that of younger, typical children
**Language Impairment**
- Excessive use of single word utterances
- Greater omissions of verb inflections, e.g. past tense {ed}, present tense {s}
- Less complex verb phrases

**Mental Retardation**
- Language difficulties greater than language matched typical children
- Shorter, less complex sentences
- Restricted word meanings
- Slow vocabulary growth
- Articulation problems

**Autism**
- Severe language impairment
- Pronoun reversals (I = you)
- Concrete speech
- Atypical descriptions

Study on picture description
Children: 10 children with SLI;
1 child with autism, A
30 photos; select ‘most typical’ sentences
Results: SLI 75% on target
A 25% on target

**Cochlear Implants**
- Children with hearing loss
- Problems with fricatives & nonvisible sounds
- Low intelligibility
- ASL vs. spoken language
- To implant or not?
- When to implant?
- Speech properties
- Highly variable success rate
- Low intelligibility
- More variable pronunciations

**Summary**
- Wide range of language difficulties
- Delay vs. disorder
- Linguistic vs. organic
- Careful language/phonological/acoustic analyses are necessary