Grammatical Development

**Overview**

*Syntax*: Rules that combine words into sentences, e.g.
\[ S \rightarrow NP + VP; \ NP \rightarrow \text{Art + (Adj) + N}; \ VP \rightarrow \text{V + (NP)} \]

*Morphology*: Rules that form words, e.g. \( N + \text{plural}, \text{possessive}; \ V + \text{ing, ed, es,} \)

Taking place over several years: Holophrases; Two Word Utterances; Telegraphic Sentences Simple Sentences (sentences have verbs); Complex Sentences

**Grammatical Knowledge**

Word Order, e.g. “fish eat” vs. “eat fish”

Phrases, e.g. Noun Phrase vs. Verb Phrase

Grammatical Relations: Subject, Verb, Object e.g. “dog eat bone”

**Holophrastic Stage**

Is there evidence that children have some knowledge of grammar?

No. They only produce one word at a time

Yes. Evidence exists in comprehension studies; Contexts of single words

**Comprehension Task**

Study 1: Ask children to follow commands. 3 kinds:

Noun only “ball”; Telegraphic “throw ball”; Well formed “throw me the ball”

Results: Prefer Well formed commands

Study 2: Give children novel commands; Verbs: smell, kiss; Nouns: truck, dolly

E.g. ‘smell truck’

Results: two-year olds respond correctly to novel commands

**Comprehension Results**

Children around 1;6 show evidence of understanding word combinations

Verb + Object, e.g. “throw ball”

Possessor + Possessed “daddy sock” vs. “mommy sock”

**Holophrastic Productions**

They show a range of meanings

1. Different functions, e.g. command, request, comment

2. Different Contexts, e.g. Nominals as Actor, Object of Action, Location

Sequences of Single Word Utterances

Issue: Does “mommy” “sock” = “mommy sock”?

Bloom Example

Allison: “up”

Mother: “What?”

Allison: “neck”; “up”

Mother: “neck? What do you want?”

Allison: “neck” “zip”

Allison wanted her mother to zip her coat up
Conclusion
Before children produce word combinations
1. They show comprehension of some two-word combinations
2. They produce sequences of single-word utterances about a single event
They may have some awareness that words combine to form sentences (rich interpretation)

Early Word Combinations
Syntactic type = a unique sentence
First combinations around 1;6
Slow period of developing syntactic types
Similar to word acquisition before word spurt
Graph of Growth Curves
Conclusion
3 of 4 children show a syntactic spurt
Jennika did not show a spurt (she doubled rate each month)
Means do not show a syntactic spurt
Important to examine individual pattern as well as the means

Syntactic Types
Syntactic Types is a better measure than MLU
20 months of age
<p>| | |</p>
<table>
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<tr>
<td>Eric</td>
<td>1.2</td>
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<tr>
<td>Gia</td>
<td>1.3</td>
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<td>Types</td>
<td>37</td>
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<tr>
<td></td>
<td>226</td>
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</tbody>
</table>
Gia has undergone the syntactic spurt but Eric has not.

Are there grammatical rules? 3 proposals
Semantic Relations (Brown, lean); Primitive Syntactic Categories (Braine, lean)
Grammatical Relations (Pinker, rich)

Brown’s Semantic Relations
Study: 18 children in 5 languages
All children acquire a small set of basic semantic relations
Children use these eventually to require the grammar of the specific languages

Semantic Relations
Action Based: agent + action; action + object; action + location
Nominal Based: Recurrence, Nonexistence, possessor possession, entity + attribute
They are independent of each other, e.g. no evidence of ‘actor action object’

Primitive Syntactic Classes
Pivot class vs. Open class
Pivot class: frequent, fixed position, never occur alone, never occur together
Open class: infrequent, any position, occur alone, can occur together,

Pivot Grammar
Child learns two basic categories of words, i.e. grammatical words vs. lexical words
Pivots: become grammatical words
Open Words: become nouns, verbs, adjectives, adverbs. E.g. Andrew’s Sentences

Grammatical Relations
Pinker (1984) raised theoretical questions: Continuity vs. Discontinuity: how does child get to the adult grammar?
Continuity: Child begins with an adult-like grammar
Semantic Bootstrapping: syntactic categories are inferred from semantic relations
Noun = name of person or thing; Verb = action or change of state
Subject = agent of action; cause of event; instrument of action
E.g. ‘bob opened the door’, ‘the wind opened the door’, ‘the key opened the door’

Assessment
Need to consider level of child, i.e. pivots best suited for first syntactic types
pivots > semantic relations > grammatical relations
Individual differences

Summary
Grammatical knowledge may emerge during the holophrastic period
First word combinations follow a period of slow learning and then a spurt in usage
Syntactic types may be a better measure than MLU
Different theories exist to capture their grammatical nature