Finding systematicity in the margins: Polysyllabic forms in the ASL Lexicon

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Polysyllabic forms in the ASL lexicon

• **Scope of analysis:**
  • **Polysyllabic lexical items** with multiple distinct syllables (i.e. first and subsequent syllables are not repetitions of one another)

• Polysyllabic lexical items will be divided into **compound and non-compound** forms
Examples: Compound
Examples: sign + agentive morpheme
Examples: Other

TIE (verb)
Polysyllabic forms in the ASL lexicon

• Why look at these forms?
  • Margin cases can provide additional insights (Bybee 1994)

• From an information theory based perspective, the rarity of these forms makes them more complex.
Polysyllabic forms in the ASL lexicon

Primary question:

Do polysyllabic lexical items exhibit constraints in their form?
Polysyllabic forms in the ASL lexicon

• **Preview of findings:**
  • Non-compound polysyllabic items in the lexicon display some *restrictions* in their form, as well as sub-regular patterns.

• These distributional characteristics are not shared by compounds
Presentation overview

1. Background: Polysyllabic forms in the ASL lexicon
2. Dataset and distribution of forms
3. Discussion
4. Compounds vs. other polysyllabic forms
5. Conclusions and future directions
Previous accounts

- Perlmutter (1992):
  - Claim: Secondary movements, (‘trilled movements’), do not occur in monomorphemic, disyllabic lexical items.
  - Restriction does not hold for signs that are morphologically derived.
Previous accounts

• Example of an impossible sign according this
Previous accounts

• Brentari (1996):
  • Perlmutter’s account does not hold for all examples:
    • Exceptions: AMAZING, MAGIC, GAMBLE, HYPNOTIZE
Previous accounts

• Brentari (1998):
  • Constraints on polysyllabic, monomorphemic signs
    • circle+straight movement allowed
    • straight+circle movement not allowed
  
  • Restricted to two movements (2-MVT constraint)
Dataset


- a dictionary comprising 2,998 video entries in ASL.

- Entries excluded:
  - fingerspelled words
  - full phrases
Distribution in the lexicon

Monosyllabic vs. polysyllabic forms

<table>
<thead>
<tr>
<th>Type</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>monosyllabic</td>
<td>92%</td>
</tr>
<tr>
<td>polysyllabic</td>
<td>8%</td>
</tr>
</tbody>
</table>
Distribution in the lexicon

Distribution of polysyllabic forms

<table>
<thead>
<tr>
<th>Type</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>other</td>
<td>13%</td>
</tr>
<tr>
<td>agentive</td>
<td>21%</td>
</tr>
<tr>
<td>compound</td>
<td>68%</td>
</tr>
</tbody>
</table>
Sub-patterns in polysyllabic forms

• Two sub-regular patterns:
  • Two patterns within the movement parameter comprise 71% (22/31) of the non-compound forms

• Restricted distributional tendencies in:
  • Selected fingers
  • Number of syllables
Sub-patterns in polysyllabic forms

• Sub-patterns:
  • **Type A**: circle movement + straight movement
  • **Type B**: straight movement + repeated tap (or nod) movement
Sub-patterns in polysyllabic forms

• Type A:
  • Circle movement + straight movement
  • Comprises 42% of the forms under consideration
  • Appears in both one-handed and two-handed forms
Examples: Type A

TIE

APPOINTMENT
Sub-patterns in polysyllabic forms

• Type B:
  • Straight movement + repeated tap (or nod) movement

• Comprises 29% of the forms under consideration

• All Type B signs begin with contact with the body
Example: Type B

SPANISH

WITCH
Example: Type B continued

LICK
Remaining items

- Most *morphologically complex, highly iconic, based in classifier constructions*
Distribution of ‘Other’ Category

Distribution of ‘Other’ Category

Frequency (Percent)

Type A
Type B
Neither
Additional distributional tendencies:

• Most (97%) of forms have either:
  • i. no change in aperture (65%)
  • ii. an aperture change within the same selected finger group (32%)
Additional distributional tendencies:

• Most (97%) of forms have either:
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• All forms limited to two distinct syllables
Additional distributional tendencies:

• Most (97%) of forms have either :
  • i. no change in aperture (65%)
  • ii. an aperture change within the same selected finger group (32%)

• All forms limited to two distinct syllables

• No forms violated the *straight+circle constraint
Analysis: Type A and B

• ‘Other’ category shows tendencies towards two types of movement patterns, although not all forms fit into these groups.

• Perhaps driven by a pressure towards perceptual distinctiveness.
Analysis: Remaining items

• Signs outside of the Type A/B categorization largely comprise classifier-derived constructions (8/9)

• Iconicity and morphological complexity may be contributing to the increased complexity in the lexical items that did not fit into the proposed classification.
Comparison with compounds

• Compounds do not appear to be as strictly constrained in form.
Comparison with compounds

• Compounds do not appear to be as strictly constrained in form:
  • Ex. violation of *straight+circle
Comparison with compounds

- Compounds do not appear to be as constrained in form.
- Compounds not necessarily limited to two syllables (ex. DESERT)
Comparison with compounds

• Example: DESERT

DRY + transition movement + AREA
Conclusions (1/2)

• Sub-regularities and distinct distributions within the non-compound set separate it from compounds in the ASL Lexicon.

• Within the non-compound forms two distinct subgroups comprise the majority of the data within this subset
Conclusions (2/2)

• Existence of these sub-regularities further supports the analysis of edge cases.

• While not representative of the whole lexicon, these potentially provide additional insights into the pressures that shape sign languages.
Future work

• Dataset does not include all attested polysyllabic forms.
  • Example: MAGIC
  • Further examination of additional polysyllabic signs will reveal whether the trends identified hold
Thank you to....

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References


• Signing Savvy, L.L.C. Sign for SPANISH. Retrieved from https://www.signingsavvy.com/sign/SPANISH/6113/1