Determining prosodic constituency from morpho-phonological generalizations

Microparametric variation in prosodic structure: case studies from Algonquian

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Moving from generalizations to constituency

- All languages have phonological processes and generalizations at edges
- How to determine prosodic constituency from these generalizations?

1. Predictions of hypotheses
2. Mapping the generalizations to hypotheses
3. Summary
4. Discussion
Predictions of hypotheses
H1: a single PStem

- Prediction: all templatic positions exhibit the same alternations
- No differentiation of phonological generalizations
- (None of the languages match with H1.)

H1 \((\text{prefixes– preverb– initial –final –suffixes})\)_{PStem}^{PWD}

- restrictions on left/right edges
- minimal size constraints
- stress or tonal processes
- vowel harmony
- etc.
H3: multiple PStems

- Every PStem has the same generalizations

\[ H3 (\text{prefixes} - (\text{preverb} - )_{\text{PStem}} (\text{initial} - \text{final} - \text{suffixes})_{\text{PStem}})_{\text{PWd}} \]

- restrictions on left/right edges
- minimal size constraints
- stress or tonal processes
- vowel harmony
- etc.

\[ \text{etc.} \]
H2: subset of positions parsed into a PStem

- Regular prosodic processes hold of the PStem
- No prosodic processes (minimal size constraints, stress) for preverbs

H2 (prefixes– preverb– (initial –final –suffixes)\textsubscript{PStem})\textsubscript{PWd}

- no distinct prosodic processes (only PWd processes or morphophonological processes)
- no minimal size constraints
- no stress or tonal generalizations
- etc.

- restrictions on left/right edges
- minimal size constraints
- stress or tonal processes
- vowel harmony
- etc.
Microparametric variation in prosodic structure

- Some languages compatible with:
  - H2 (Blackfoot)
  - H3 (Ojibwe, Plains Cree)*
  - uncertain (Cheyenne, Arapaho)

\[
\text{H2 \ (prefixes– preverb– (initial \ –final \ \ –suffixes)_{PStem}}_{PWd}
\]

\[
\text{H3 \ (prefixes– (preverb–)_{PStem}(initial \ \ –final \ \ –suffixes)_{PStem}}_{PWd}
\]

*known from previous research, and so far confirmed by our project
(Branigan et al. 2005; Russell 1999; Newell & Piggott 2014; Piggott & Travis 2013)
Mapping the generalizations to hypotheses
H3 explains right edge generalizations in Cheyenne

- Cheyenne is compatible with H3 (or something like it)

*known from the descriptive literature; opaque interaction with final devoicing/deletion (Leman 2011)
H2 explains juncture generalizations in Blackfoot

**PWd**
- no CC or VV (epenthesis, coalescence)
- minimal size constraints
- obligatory stress

**Boundaries w/i PWd**
- no [+cons] after juncture (morphophonological process*)
- no minimal size constraints
- no obligatory stress

H2 (prefixes– # preverb– # (initial –final –suffixes)\textsubscript{PStem})\textsubscript{PWd}

**PStem**
- no CC or VV (epenthesis, coalescence)

*feeds later vowel coalescence (Elfner 2006; Weber 2020)*
Predictions for preverbs

- preverbs are parsed into a PStem for H3 but not H2

<table>
<thead>
<tr>
<th></th>
<th>H2</th>
<th>H3 (Plains Cree)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimal size constraints?</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>Stress generalizations?</td>
<td>✗</td>
<td>✓</td>
</tr>
</tbody>
</table>
Preverbs have no minimal size constraints in Blackfoot

- Blackfoot: No minimal size constraints on preverbs
  - V a- ‘IPFV’
  - CV sa- ‘out’
  - VC on- ‘hurry’

- cf. Plains Cree: **lexical** preverbs are minimally bimoraic
  - *V, *CV, *VC
  - CVV pê- ‘hither’
  - CVCV pimi- ‘along’
Preverbs have no stress generalizations in Blackfoot

- Stress is obligatory over entire verbal complex, but not on preverbs.
- (The morpheme with stress is underlined.)

**Orthography**  
preverbs–  |  [init–fin]–suf  |  Translation
---|---|---

a. isstááwa  |  [isst–aa]–wa  |  ‘she wants’ [F&R 272]

b. iksímsstaawa  |  iksim–  |  [sst–aa]–wa  |  ‘he thought’ [F&R 61]

c. itanístsiksimsstaya  |  it-anist-iksim-  |  [sst–aa]–yi=aawa  |  ‘they decided thus’  
                             (BB, 2013-02-13)

- Preverbs in Plains Cree reported to have stress (cf., Russell 1999)
Summary
Methodological contribution

● toolkit and explanation of how to study prosodic structure
● current: annotated spreadsheets using orthography
● future:
  ○ IPA transcriptions where possible
  ○ speech corpora to study suprasegmental prosody in depth
    (e.g., pitch accent alignment, pitch reset, stress, final lengthening, pauses, …)
  ○ possible gradient phonetic properties at stronger boundaries? (Itô & Mester 2012; Ladd 2008; Wagner 2005)
● future future:
  ○ work with communities to elicit datasets?
Empirical contributions

● synchronic comparison of **phonology** across a single language family
● using **standard methods** (distribution, phonotactics, alternations)
  ○ existing research on Ojibwe and Plains Cree
  ○ examples today from Cheyenne and Blackfoot (many are novel)
  ○ confirming previous descriptions, discovering new generalizations
● compare similar processes and generalizations across the family
● showed there is microvariation of **prosodic structure** across family
Theoretical contributions

- Languages have a similar morphological template
- Variation must be due to the phonological grammar!
- Some evidence is compatible with cyclic derivation or phases (e.g., Weber 2020)

1. Correspondence of syntactic and prosodic constituent *types*
   - stem (vP) + suffixes ⇒ PStem (all langs)
   - verbal complex (CP?) ⇒ PWd (all langs)
   - preverbs: either PStem or not (parameterized)

2. Ordered phonological processes (tentative)
   - epenthesis before coalescence
   - final vowel devoicing
Discussion
What’s in a name?

● PStem vs. PWd (or CG or PPh…)
  ○ PStem b/c derived from a morphological stem? (Downing 1999)
  ○ PWd b/c derived from a vP phrase + incorporated suffixes? (e.g., Newell 2008; Guekguezian 2017; Weber 2022)

● Some languages have clear phonological clitics outside this domain → should those be the CG?

● Many “word”-ish phonological properties are distributed across multiple prosodic domains within and across languages
  ○ domain of metrical stress
  ○ domain of vowel harmony
  ○ cohering suffixes
Prosodic Clitic Theory or phrasal correspondence?

- (Peperkamp 1997; Selkirk 1996; Werle 2009; contra Nespor & Vogel 2007 [1986])
  - clitics may be parsed inside the PWd, as a PWd adjunct, or outside the PWd
  - could capture the differences between Blackfoot and the other langs
  - but not only (morphological) clitics vary in prosody: it is also phrasal lexical morphemes like modifying adjuncts

- Weber (2022): because the syntax is phrasal, we should consider phrasal prosody-syntax correspondence theories (e.g., Selkirk 1986; 2011; Truckenbrodt 1999)
Prefix-suffix asymmetry

- Preverbs are more loosely prosodified than suffixes
  - ‘[a] preverb is a phonologically independent word that is syntactically part of a compound verb stem’ (Goddard 1990: 478).
  - ‘the members [of a compound—NW] are treated phonetically like words in a phrase’ (Bloomfield 1946: 103)
  - This type of prosody has been argued for preverbs in several Algonquian languages (Branigan, Brittain, and Dyck 2005 for multiple languages; Newell and Piggott 2014 for Ojibwe; Russell 1999 for Plains Cree).

- Algonquian-specific asymmetry between prefixes and suffixes? (e.g., Bye & de Lacy 2008)
Thank you!

Thank you to everyone in the Algonquian prosody working group, and to Emily Elfner for her discussion!


