

# 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 ((prefixes– preverb– initial –final –suffixes)PStem)<sub>PWd</sub>



- 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 (prefixes– (preverb–)<sub>PStem</sub>(initial –final –suffixes)<sub>PStem</sub>)<sub>PWd</sub>

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

- restrictions on left/right edges
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## 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)<sub>PStem</sub>)<sub>PWd</sub>

- 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)

H2 (prefixes— preverb— (initial —final —suffixes)<sub>PStem</sub>)<sub>PWd</sub>

H3 (prefixes— (preverb—)<sub>PStem</sub>(initial —final —suffixes)<sub>PStem</sub>)<sub>PWd</sub>

\*known from previous research, and so far confirmed by our project

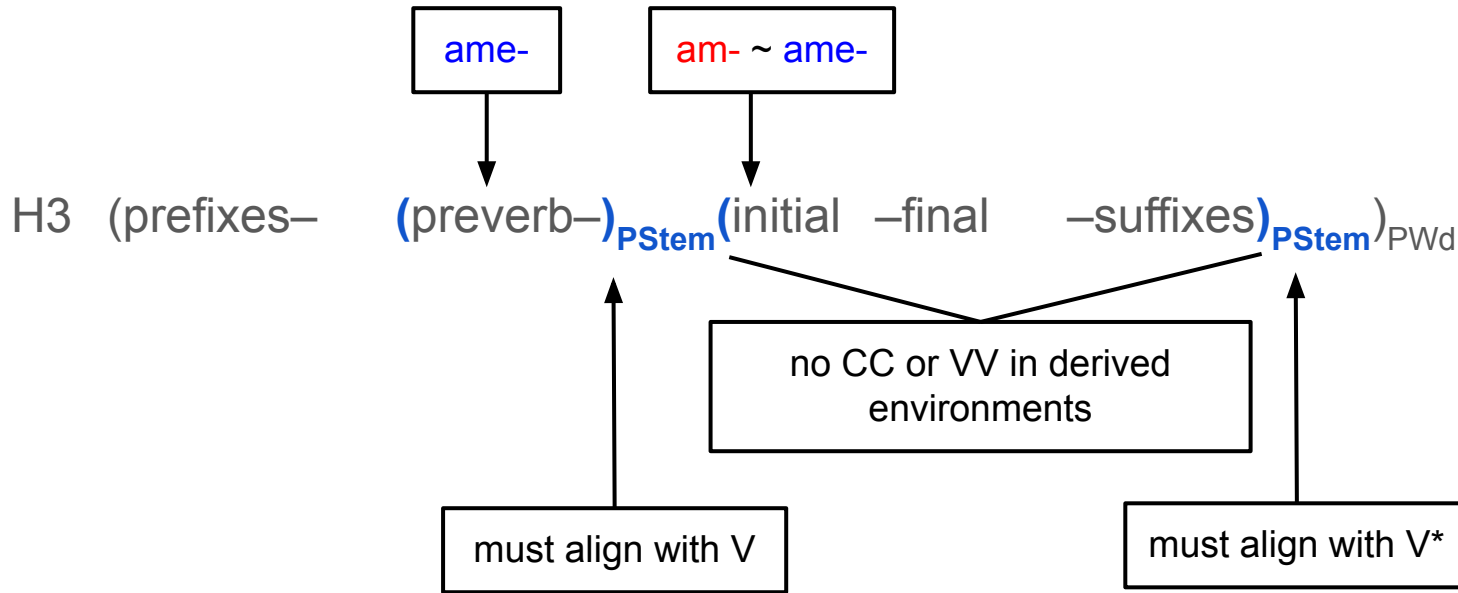
(Branigan et al. 2005; Russell 1999; Newell & Piggott 2014; Piggott & Travis 2013)

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

H2 (prefixes– # preverb– # (initial –final –suffixes)<sub>PStem</sub>)<sup>PWd</sup>

## Boundaries w/i PWd

- no [+cons] after juncture (morphophonological process\*)
- no minimal size constraints
- no obligatory stress

## 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

	H2	H3 (Plains Cree)
Minimal size constraints?	✘	✓
Stress generalizations?	✘	✓

# 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.)

	<i>Orthography</i>	<i>preverbs-</i>	<i>[init-fin]-suf</i>	<i>Translation</i>
a.	isstááwa		[ <u>isst-aa</u> ]-wa	'she wants' [F&R 272]
b.	iksímsstaawa	<u>iksim-</u>	[sst-aa]-wa	'he thought' [F&R 61]
c.	itanístsiksimsstaya	it- <u>anist</u> -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  $\Rightarrow$  PStem (all langs)
    - verbal complex (CP?)  $\Rightarrow$  PWd (all langs)
    - preverbs: either PStem or not (parameterized)
  2. Ordered phonological processes (tentative)
    - epenthesis before coalescence
    - final vowel devoicing

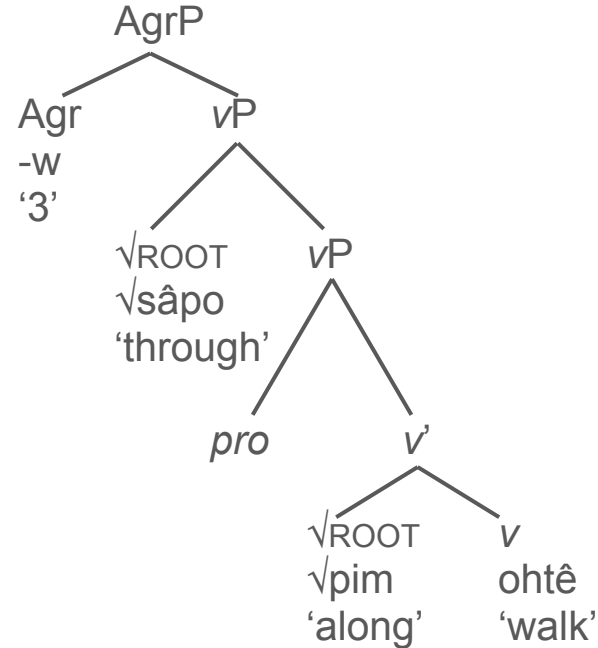
# Discussion

# 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!

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