Phonological domains within Blackfoot
Towards a family-wide comparison

Natalie Weber
1. Background

2. Two phonological domains in Blackfoot verbs

3. Preverbs are not a separate phonological domain

4. Parametric variation
Background
Consonant inventory

<table>
<thead>
<tr>
<th></th>
<th>Labial</th>
<th>Coronal</th>
<th>Dorsal</th>
<th>Glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stops</strong></td>
<td>p pː</td>
<td>t tː</td>
<td>k kː</td>
<td>? ʾ</td>
</tr>
<tr>
<td><strong>Assibilants</strong></td>
<td>ts tːs</td>
<td>ks</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Pre-assibilants</strong></td>
<td>sᵗ sᵗː</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fricatives</strong></td>
<td>s sː</td>
<td>x &lt;h&gt;</td>
<td></td>
<td></td>
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<tr>
<td><strong>Nasals</strong></td>
<td>m mː</td>
<td>n nː</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Glides</strong></td>
<td>w j &lt;y&gt;</td>
<td>(w)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Long consonants written with doubled letters.

(Derrick and Weber n.d.; Weber 2020)
### Vowel inventory

<table>
<thead>
<tr>
<th></th>
<th>front</th>
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<th>back</th>
</tr>
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<tr>
<td>high</td>
<td>i iː</td>
<td></td>
<td>o oː</td>
</tr>
<tr>
<td>mid</td>
<td>ɛː &lt;ai&gt;</td>
<td></td>
<td>ɔː &lt;ao&gt;</td>
</tr>
<tr>
<td>low</td>
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(Derrick and Weber n.d.; Weber 2020)
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**Predictable mid vowels? (Frantz 2017)**

Many [ɛː] and [ɔː] arise from coalescence across boundaries

- /a+i/ → [ɛː]
- /a+o/ → [ɔː]

(Derrick and Weber n.d.; Weber 2020)
Contrastive mid vowels

Some [ɛː] and [ɔː] are morpheme-internal, in overlapping environments with other long vowels

\[
\begin{array}{ll}
[\text{ɔːnǐːt}] & [\text{aːnǐːt}] \\
\text{aoníít} & \text{aaníít} \\
[\text{ao–n/i–i–t–Ø}] & [\text{aan–ii–t–Ø}] \\
[\text{hole–by.needle/\text{ti–tii}–2SG.IMP–IMP}] & [\text{say–Ai–2SG.IMP–IMP}] \\
\text{‘pierce it!’} & \text{‘say (s.t.)!’}
\end{array}
\]

(Weber 2020)
Syntax within the stem

Intransitive (bi-morphemic) vs. syntactically transitive (trimorphemic). Transitive V is object agreement (Quinn 2006; Rhodes 1994)

<table>
<thead>
<tr>
<th>[ √ROOT ]</th>
<th>−v₀</th>
<th>−V₀</th>
<th>Stem type</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>ikinn</td>
<td></td>
<td>−sssi</td>
<td>AI</td>
<td>‘he is warm’</td>
</tr>
<tr>
<td>ikinn</td>
<td></td>
<td>−ii</td>
<td>II</td>
<td>‘it is warm’</td>
</tr>
<tr>
<td>itap</td>
<td>−ip/i</td>
<td>−THM</td>
<td>TA</td>
<td>‘take him there’</td>
</tr>
<tr>
<td>itap</td>
<td>−ip/ht</td>
<td>−oo</td>
<td>TI</td>
<td>‘take it there’</td>
</tr>
<tr>
<td>itap</td>
<td>−ip/ht</td>
<td>−aki</td>
<td>AI(+O)</td>
<td>‘take (s.t.) there’</td>
</tr>
</tbody>
</table>

(Déchaine and Weber 2015, 2018; Weber 2020)
Syntax within the verbal complex

**TEMPLATE**

\[
\text{CP} \left[ \text{person–(preverb)}^* \rightarrow \text{vP} \left[ \sqrt{\text{root}} – \text{med} – \text{v–V} \right]_{\text{vP}} \rightarrow \text{I}^0 – \text{C}^0 \right]_{\text{CP}}
\]

- Minimal verbal complex: stem plus suffixes (I\(^0\), C\(^0\)).
- Optional preverbs; person prefixes only some clause types

(Weber 2020)
Two phonological domains in Blackfoot verbs
Two phonological domains in Blackfoot verbs

1. CP verbal complex = Phonological Phrase (PPh)
2. VP/νP stem = Prosodic Word (PWd)

Roadmap
- Stem-internal epenthesis
- Diagnosing the right edge of the stem
- Diagnosing the left edge of the stem

Data
- Primarily from Frantz and Russell (2017)
- Phonetic transcriptions are based on orthography; given in [ ]
Stem-internal epenthesis
Vowel-initial suffixes

[a]-initial suffix -ap- ‘cord’

**After C**

[ijí*[stapapíni:i:wَا]]

iyísta[apinni:wa]

[iyi:stap–ap–inn–ii]–Ø–wa

[away–cord–by.hand.ta–3sub]–ind–3

‘he adjusted the strand out and away’

**After V**

[níts:apín:awَا]

nítss[aapinnawa]

[nit–[sa–ap–inn–a]–Ø–wa]

 nit–[out–cord–by.hand.ta–3obj]–imp–3

‘I adjusted the strand out from the inside of it’
Vowel-initial suffixes

[ɔ]-initial suffix -op ‘sit’

**After C**

[ nitâːksːapopiː ]

nitáakssapopii

nit–aak–[sap–op/ii]–(hp)

1–FUT–[inside–sit/ai]–(IND)

‘I’ll ride in (a vehicle)’

**After V**

[ ípakkssəopiːwa ]

ípakkssaoopiwa

[ ipakkssə–op/ii]–Ø–wa

[bare–sit/ai]–IND–3

‘he’s sitting with nothing on (in the nude)’
Vowel-initial suffixes

*i > [i₁]-initial suffix -istot ‘CAUS’

**After C**

[sapístotóːsä]  
[sapístotóósa]  
[sap–istot/o–ːs]–Ø  
[correct–CAUS/TA–2SG:3.IMP]–CMD  
‘reach an agreement with him!’

**After V**

[saṭéːstotoːs]  
[saṭáístotoosa]  
[saṭa–istot/o–ːs]–Ø  
[offended–CAUS/TA–2SG:3.IMP]–CMD  
‘purposely make her angry!’
### Underlying Short Vowels within the Stem

<table>
<thead>
<tr>
<th>V = a  o  i₁  i₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>After C</td>
</tr>
<tr>
<td>a+V</td>
</tr>
<tr>
<td>i+V</td>
</tr>
<tr>
<td>o+V</td>
</tr>
<tr>
<td>a: a: ɔː ɛː i: i:</td>
</tr>
<tr>
<td>ja/a jo/o i: i:</td>
</tr>
<tr>
<td>a:/a o: oi oi</td>
</tr>
</tbody>
</table>

* i > [i₁]; * e > [i₂]; [i₁] causes a preceding /k/ to assibilate

(Berman 2006; Elfner 2006; Weber 2020)
Consonant-initial suffixes

**After C**

\[
\text{[nitâ:ksox}^w\text{ksip}^{\text{sta}}]\n\text{nitâaksoohksipistaa}
\text{nit–aak–[yoo}^{\text{h}}\text{k–p/ist–aa}–(hp)}
\text{1–FUT–[l}^{\text{id}–}\text{tie/TA–AI}–(IND)}
\]

‘I will close the tipi flap’

**After V**

\[
\text{[a:wá}^{\text{pi}^{\text{sta}}t]}\n\text{aawápistaat}
\text{[aawa–p/ist–aa}–t–}\emptyset
\text{[wander–tie/TA–AI}–2\text{SG.IMP–CMD}}
\]

‘make a cradle swing!’
Consonant-initial suffixes

**After C**

[iːkómx̩ksikawɑ]

iikómahksikawa

iː[omahk–ka–Ø]–wa

IĆ\DOC–[big–leg–AI]–IND–3

‘he has big feet’

**After V**

[amokápiʰtaːt]

amokápistaat

[amo–ka–p/ist–aa]–t–Ø

[gather–leg–tie/TA–AI]–2SG.IMP–CMD

‘hobble!’
Summary: consonant-initial suffixes

Underlying consonants within the stem

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<td>[-ip]</td>
<td>[-p]</td>
<td>/-p/</td>
<td>‘tie’</td>
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Summary: consonant-initial suffixes

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</tbody>
</table>

**Three correlates**

1. Concatenate directly after vowels (no mutation to vowel)
2. Epenthetic [i₁] between consonants.
3. Epenthesis always causes k-assibilation.
Diagnosing the right edge of the stem
Diagnosing the right edge of the stem

Selected suffixes within the independent clause type.

- Central agreement suffixes (AGR) occur between $I_0$ and $C_0$.
- Segments in parentheses occur in some phonological environments.

<table>
<thead>
<tr>
<th>...$V^0$</th>
<th>$-I_0$</th>
<th>$-AGR$</th>
<th>$-C_0$</th>
</tr>
</thead>
<tbody>
<tr>
<td>-aa ‘3OBJ’</td>
<td>$\emptyset$</td>
<td>-(i)nnaan ‘1PL’</td>
<td>-(w)a ‘3’</td>
</tr>
<tr>
<td>-ok ‘INV’</td>
<td>$hp$</td>
<td>-oaa ‘PL’</td>
<td>-(y)ini ‘3SG.OBV’</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-(y)i ‘3PL’</td>
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</tbody>
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<tbody>
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<td>-aa ‘3OBJ’</td>
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<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

...V₀ –I₀ –AGR –C₀
Diagnosing the right edge of the stem

**After C**

\[
\begin{align*}
\text{Nitsikákomímm} & : \text{o}k\text{n}a:n\text{i} \\
\text{Nitsikákomímm} & \text{ki}n\text{n}a\text{ani} \\
ni\text{t}–i\text{k}–[\text{a}k\text{o}m–\text{i}m\text{m}–\text{ok}]–\emptyset–\text{n}n\text{aan–i} \\
1–\text{DEG}–[\text{favor–by.mind.TA–INV}]–\text{IND}–1\text{PL}–3\text{PL} \quad 2–\text{daughter–AN.PL}
\end{align*}
\]

‘Your daughters love us.’

*(Frantz 2009: 56, (i))*

**After V**

\[
\begin{align*}
\text{Nitsikákomímm} & : \text{a}n\text{n}a:n\text{i} \\
\text{Nitsikákomímm} & \text{m}a\text{n}n\text{aani} \\
ni\text{t}–i\text{k}–[\text{a}k\text{o}m–\text{i}m\text{m}–\text{aa}]–\emptyset–\text{n}n\text{aan–i} \\
1–\text{DEG}–[\text{favor–by.mind.TA–3OBJ}]–\text{IND}–1\text{PL}–3\text{PL} \quad 2–\text{daughter–AN.PL}
\end{align*}
\]

‘We (excl.) love your daughters.’

*(Frantz 2009: 53, (g))*
Diagnosing the right edge of the stem

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<tr>
<td>[-ɪnːaːn]</td>
<td>~</td>
<td>[-nːaːn]</td>
<td>/-nːaːn/ ‘₁PL’</td>
</tr>
</tbody>
</table>

**Right edge correlates**

- Agreement suffix begins with a consonant.
- But stem-final /k/ does *not* assibilate to [ks] before epenthetic [i].
Diagnosing the left edge of the stem
Verbal complex syntax

ROOT ALTERNATIONS

1. Left edge of the verbal complex (IMP)
2. Medially, after a prefix (IMP or IND)

**IMPERATIVE**

\[
\text{[i.p\textsuperscript{st}.to.tsi.t]} \\
\text{iipístotsit} \\
\text{[√yiip–istot/Ø–i]–t–Ø} \\
\text{[√\textit{decrease}–CAUS/\textit{ti–tii}]}–2\text{SG.IMP–CMD 1–IPFV–[√\textit{decrease}–CAUS/\textit{ti–tii}]}–\text{IND–3}
\]

‘decrease the volume of it (e.g. of your load of ironing)!’

**INDEPENDENT**

\[
\text{[ni.tá.ji.p\textsuperscript{st}.to.tsi:?pä]} \\
\text{nitáyiipístotsi’pa} \\
\text{nit–a–[√yiip–istot/Ø–i]–hp–a} \\
\text{nit–a–[√\textit{decrease}–CAUS/\textit{ti–tii}]}–\text{IND–3}
\]

‘I am decreasing the amount’
Some roots begin with an obstruent or nasal as well.

**C-initial roots**

pommáát
[pomm–aa]–t–Ø
[buy–AI]–2SG.IMP–CMD

‘buy!’

pommóós
[pomm–o–ːs]–Ø
[transfer–TA–2SG:3.IMP]–CMD

‘transfer (e.g. the medicine bundle) to him!’
Some roots begin with an obstruent or nasal as well.

**C-initial roots**

pommáát
[pomm–aa]–t–Ø
[buy–A1]–2SG.IMP–CMD
‘buy!’

pommóós
[pomm–o–s]–Ø
[transfer–TA–2SG:3.IMP]–CMD
‘transfer (e.g. the medicine bundle) to him!’

**V-initial roots**

ohpóísskinisa
[ohpo–isski–n–:s]–Ø
[grease–face–by.hand.TA–2SG:3.IMP]–CMD
‘paint his face!’

ipótsimatsísa
[ipotsim–at–:s]–Ø
[poison–TA–2SG:3.IMP]–CMD
‘poison him!’
Two major patterns for plosive-initial roots

1. <oh> accretion at the left edge of root
2. <i> epenthesis at the left edge of root

**After C**

[âːkɔ presenta wa]
áakoh pommaawa
aak–[oh pomm–aa]–Ø–wa
fut–[buy–ai]–IND–3

‘she will buy’

**After V**

[óxwa pommaa]
áóh pommaawa
a–[oh pomm–aa]–Ø–wa
ipfv–[buy–ai]–IND–3

‘s/he is shopping’ (BB)
Roots which begin with a non-continuant

**Two major patterns for plosive-initial roots**

1. \(<oh>\) accretion at the left edge of root
2. \(<i>\) epenthesis at the left edge of root

**After C**

\[â:ksipómoji:wa:jî]\n
áaksipómmoyiiwáyi

aak–\[ipomm–o–yii]–Ø–\ w=ayi

fut–\[transfer–TA–3SUB]–IND–3=OBV.SG IPFV–\[transfer–TA–AI]–IND–PRX

‘he will transfer it to her’

**After V**

\[é:pum:akiwâ]\n
áipommakiwa

a–\[ipomm–Ø–aki]–Ø–wa

‘the one transferring (previous owner)’
## Roots which begin with a non-continuant

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>a. * [p...]</td>
<td>* [p...]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. [pum:]</td>
<td>[oxʷpum:]</td>
<td>/pum:/</td>
<td>‘buy’</td>
</tr>
<tr>
<td></td>
<td>[pum:]</td>
<td></td>
<td>‘transfer’</td>
</tr>
<tr>
<td>c. [öhpo]</td>
<td>[öhpo]</td>
<td>/öhpo/</td>
<td>‘grease’</td>
</tr>
<tr>
<td></td>
<td>[ipotsim]</td>
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Roots which begin with a non-continuant

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<tr>
<td>b. [pum:]</td>
<td>~ ~ [oxʷpum:]</td>
<td>/oxʷpum:, pum:/</td>
<td>‘buy’</td>
</tr>
<tr>
<td></td>
<td>[pum:]</td>
<td>/pum:/</td>
<td>‘transfer’</td>
</tr>
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<td>c. [ohpo]</td>
<td>~ ~ [ohpo]</td>
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<td>~ ~ [ipotsim]</td>
<td>/ipotsim/</td>
<td>‘poison’</td>
</tr>
</tbody>
</table>
Diagnosing the left edge of the stem

- Epentheses at the left edge of the stem causes $k$-assibilation.
- But differs from stem-internal epenthesis.
  - Not driven by phonotactic constraints.
  - Epenthesis occurs after consonants or vowels.
Diagnosing the left edge of the stem

**Table 1:** Segments allowed at left edge of roots in two positions: the left edge of the verbal complex vs. after a prefix

<table>
<thead>
<tr>
<th></th>
<th>p</th>
<th>k</th>
<th>m</th>
<th>n</th>
<th>j</th>
<th>w</th>
<th>iː</th>
<th>oː</th>
<th>ɛː</th>
<th>ɔː</th>
<th>aː</th>
<th>i</th>
<th>o</th>
<th>a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left edge</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✗</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>After prefix</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

Proposal: Root alternations and epenthesis occur in order to satisfy edge constraints of two distinct prosodic constituents.
Analysis: two distinct phonological phrases

- Verbal complex = CP
- Stem = VP/νP

**Syntax**

\[
\text{CP} \left[ \text{prefix} - \right] \nu P \left[ \sqrt{\text{ROOT} - \nu - V} \right] \nu P - I^0 - C^0 \right]_{\text{CP}}
\]

**Prosody**

\[
\text{PPh} \left[ \text{prefix} - \right] \text{PWd} \left( \sqrt{\text{ROOT} - \nu - V} \right) \text{PWd} - I^0 - C^0 \right]_{\text{PPh}}
\]

\[
\star \left[ \text{-cons} \right] \quad \star \left[ \text{-cont} \right] \quad /k/ \leftrightarrow [ks] / \_ \_ \_ i
\]
Analysis
Analysis

- **Onset** Assign a violation mark for every syllable whose left edge aligns with the left edge of a moraic segment.
- **[*#[-cont]]** Assign a violation mark for every [-cont] segment which is exhaustively dominated by a syllable and occurs leftmost within the PWd.
- **Al(νP,PWd)** The left edge of every νP phase aligns with the left edge of a PWd.
- **Dep(υ)** Assign a violation mark for every mora in the output which does not have a correspondent in the input.
- **Al(PWd,σ)** The left edge of every PWd aligns with the left edge of a syllable.
- ***V:** Assign a violation mark for every long vowel in the output.
[pomːós] pommóós ‘transfer to him’

<table>
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<tr>
<th>ONS</th>
<th>*[#{-CONT}]</th>
<th>AL(vP,PWd)</th>
<th>DEP(µ)</th>
<th>AL(PWd,σ)</th>
<th>*V:</th>
</tr>
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<tbody>
<tr>
<td>a.</td>
<td></td>
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<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>b.</td>
<td>!(pomː-móː)</td>
<td>µ</td>
<td>*</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>c.</td>
<td>!(i.póm.moː)</td>
<td></td>
<td></td>
<td></td>
<td>!</td>
</tr>
</tbody>
</table>

Crucial rankings: ONS ≫ *[#{-CONT}]

[a-] apommakía ‘the one transferring’

<table>
<thead>
<tr>
<th>ONS</th>
<th>*[#{-CONT}]</th>
<th>AL(vP,PWd)</th>
<th>DEP(µ)</th>
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<td>a.</td>
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</tr>
<tr>
<td>b.</td>
<td>!(a.pomː-ma.ki)</td>
<td>µ</td>
<td>*</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>c.</td>
<td>!(e.pomː-ma.ki)</td>
<td></td>
<td></td>
<td></td>
<td>!</td>
</tr>
<tr>
<td>d.</td>
<td>!(e.pomː-ma.ki)</td>
<td>!</td>
<td></td>
<td></td>
<td>!</td>
</tr>
</tbody>
</table>

Crucial rankings: *[#{-CONT}] ≫ {AL(vP,PWd), DEP-IO(µ), AL(PWd,σ), *V:}

Left edge of PWd in optimal candidate does not align with the left edge of a syllable
Preverbs are not a separate phonological domain
Preverbs are not a separate phonological domain

Preverb

Any constituent which freely precedes a verb stem (*excluding* person prefixes and certain tense prefixes which occur in a fixed order).

\[ \text{CP}[\text{preverb}] \]

1. \( \text{PPh}(\text{preverb–}) \)
2. \( \text{PPh}(\text{PWd}(\text{preverb–})) \)
3. \( \text{PPh}(\text{PWd}(\text{preverb–})) \)
4. \( \text{PPh}(\text{PWd}(\text{preverb–})) \)

\[ \text{vP}[\sqrt{\text{ROOT–v–V}}]\text{vP}–I^0–C^0] \text{CP} \]

\[ \text{PWd}(\sqrt{\text{ROOT–v–V}})\text{PWd}–I^0–C^0] \text{PPh} \]

\[ \text{PWd}(\sqrt{\text{ROOT–v–V}})\text{PWd}–I^0–C^0] \text{PPh} \]

\[ \text{PWd}(\sqrt{\text{ROOT–v–V}})\text{PWd}–I^0–C^0] \text{PPh} \]
Left edge restrictions: preverbs vs. verbal complex

**Left Edge**

\[
\begin{align*}
&\left( ( iː.śts ( i.pům.ma.to: )_{PWD} )_{PWD.t} \right)_{PPH} \\
&\left[ [ yiist–[ ipomm–at–oo ]_{vP} ]_{vP} –t–Ø \right]_{CP} \\
&\left[ [ on.back–[ transfer–TI–TI2 ]_{vP} ]_{vP} –2SG:3.IMP–CMD \right]_{CP}
\end{align*}
\]

‘unload it from your back!’

**After V**

\[
\begin{align*}
&( niː.táʔ.pa. ( jiː.śts ( i.pum.ma.to: )_{PWD} )_{PWD.ma} \ )_{PPH} \\
&\left[ niita’p–a–[ yiist–[ ipomm–at–oo ]_{vP} ]_{vP} –m–a \right]_{CP} \\
&\left[ really–IPFV–[ on.back–[ √transfer–TI–TI2 ]_{vP} ]_{vP} –IND–3 \right]_{CP}
\end{align*}
\]

‘he started to take it off his back/body’
The left edge of the preverb is not at the left edge of a PPh.

\[
\begin{align*}
\text{CP} & \left[ \text{preverb} \right] \\
\text{PPh} & \left( \text{preverb} \right) \\
\text{PPh} & \left( \text{PWd} \left( \text{preverb} \right) \right) \text{PWd} \\
\text{PPh} & \left( \text{PWd} \left( \text{preverb} \right) \right) \text{PWd} \\
\text{PPh} & \left( \text{PWd} \left( \text{preverb} \right) \right) \text{PWd} \left( \text{PWd} \right) \\
\text{vP} & \left[ \sqrt{\text{ROOT} - \text{v} - \text{V}} \right] \text{vP} - \text{I}^0 - \text{C}^0 \right] \text{CP}
\end{align*}
\]
Minimal size constraints: preverbs vs. verbal complex

Different minimal size constraints

<table>
<thead>
<tr>
<th>Minimal preverbs</th>
<th>Minimal verbs and nouns</th>
</tr>
</thead>
<tbody>
<tr>
<td>CV sa- ‘out’</td>
<td>CVVC píí-t ‘enter!’</td>
</tr>
<tr>
<td>VC on- ‘hurry’</td>
<td>sóó-t ‘go to war!’</td>
</tr>
<tr>
<td></td>
<td>kóón ‘ice’</td>
</tr>
<tr>
<td></td>
<td>CVCC pónn ‘bracelet’</td>
</tr>
<tr>
<td></td>
<td>kó’s ‘dish, bowl’</td>
</tr>
</tbody>
</table>
No verbal complex ends in an underlying glottal stop

\[ [sːkéj?papʊmːḁ] \]
sskáí’papomma
esska’-[ipap–o]–mm–a
shock–[emit.burst–II]–IND–3
‘the lightning really flashed’

cf. \[ [ipapʊmːḁ] \]
ipapómma
[ipap–o]–mm–a
[emit.burst–II]–IND–3
‘there was lightning’

(Frantz and Russell 2017; Peterson 2004)
Edge constraints: preverbs vs. verbal complexes

Final [j] before [i]; final [w] elsewhere

\[i:ksíjîçpijiwâ]\n\[iiksíyihpiyiwa\]
\[i\i\ksiw–[ihpi–yi]–\Ø–a\]
\[\text{ground.level}–[\text{dance–AI}]–\text{IND–3}\]
‘he danced low’

\[ítsiksiwé:naka?sit\]
\[ítsiksiwáínaka’sit\]
\[ist–íksiw–a–[inak–a’si]–t–\Ø\]
\[\text{there–ground.level}–[\text{roll–AI}]–2SG.IMP–CMD\]
‘roll there!’
Edge constraints: preverbs vs. verbal complexes

Verbal complex can end in a non-alternating [j]

itó:xʷtoji
iitáóhtoyii
ii\it–[yooht–o–ii]–Ø–wa
IC\then–IPFV–[hear–TA–3SUB]–IND–3
  amí      iːmaxkčinaj      őxʷkomiːne:
  amí      iimahkikhkinay    áóhkomiinai.
  am–i     iimahkikhkinaa–yi a–[ohkom–i]–Ø–yini=ayi
  DEM–OBV  sheep–OBV        IPFV–[bellow–AI]–IND–3OBV=OBV.SG
‘[He was still picking and] he heard this goat.’

Pear Story, told by Totsinámm
Summary: preverbs vs. verbal complex

Preverbs are not prosodified as a PPh.

\[
\begin{align*}
\text{CP} \left[ \text{preverb} \right] & \quad \Rightarrow \quad \text{vP} \left[ \sqrt{\text{ROOT} - \nu - V} \right] \text{vP} \left[ I^0 - C^0 \right] \text{CP} \\
1. \text{PPh} (\text{preverb} ) & \quad \Rightarrow \quad \text{PWd} (\sqrt{\text{ROOT} - \nu - V} ) \text{PWd} [ I^0 - C^0 ] \text{PPh} \\
2. \text{PPh} ( \text{PWd} (\text{preverb} ) ) \text{PWd} \text{PPh} (\sqrt{\text{ROOT} - \nu - V} ) \text{PWd} [ I^0 - C^0 ] \text{PPh} \\
3. \text{PPh} ( \text{PWd} (\text{preverb} ) ) \text{PWd} \\
4. \text{PPh} ( \text{PWd} (\text{preverb} ) ) \text{PWd} \\
\end{align*}
\]
Edge constraints: preverbs vs. stem

Stem-final /k/ does not assibilate before epenthetic [i]

\[ \text{isttohk} - \text{soka’sim–i} \quad \text{thin–shirt–IN.SG} \]
\[ \text{isttohksí}soka’simi \]
\[ \text{r̃tːχw}ksí{soka}’simi \]
\[ \text{cf. soká}’simí \]
\[ \text{soka’sim–i} \]
\[ \text{shirt–IN.SG} \]
\[ \text{‘shirt, dress, outer garment’} \]
\[ \text{‘shirt’} \]
Summary: preverbs vs. stem

Preverbs are not prosodified as a PWd.

\[ CP[ \text{preverb} ] \]

1. \[ PPh(\text{preverb} ) \]
2. \[ PPh(PWd(\text{preverb} )_{PWd})_{PPh} PPh(\text{PWd}(\sqrt{\text{ROOT}} v V)_{PWd}I^0 C^0)_{PPh} \]
3. \[ PPh(\text{PWd}(\text{preverb} )_{PWd})_{PPh} PPh(\text{PWd}(\sqrt{\text{ROOT}} v V)_{PWd}I^0 C^0)_{PPh} \]
4. \[ PPh(\text{PWd}(\text{preverb} )_{PWd})_{PPh} PPh(\text{PWd}(\sqrt{\text{ROOT}} v V)_{PWd}I^0 C^0)_{PPh} \]

\[ vP[ \sqrt{\text{ROOT}} v V]_{vP} I^0 C^0 \]

(contra Windsor 2017a,b)
Summary: preverbs vs. stems vs. verbal complexes

<table>
<thead>
<tr>
<th></th>
<th>Preverbs</th>
<th>Stem</th>
<th>Verbal complex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left edge allows glides</td>
<td>✓</td>
<td>✓</td>
<td>✗</td>
</tr>
<tr>
<td>Minimal size</td>
<td>CV, VC</td>
<td>CVV</td>
<td>CVVC, CVCC</td>
</tr>
<tr>
<td>Right edge allows [ʔ]</td>
<td>✓</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Right edge allows [w] ~ [j]</td>
<td>✓</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Right-edge /k/ → [ks] before [i]</td>
<td>✓</td>
<td>✗</td>
<td>✗</td>
</tr>
</tbody>
</table>
Implications for preverbs

Many definitions define preverbs phonologically.

- For Bloomfield, preverbs form “compounds” with the stem via word *composition*; ‘the members are treated phonetically like words in a phrase’ (Bloomfield 1946: 103).

- A preverb is a phonologically independent word that is syntactically part of a compound verb stem. (Goddard 1990: 478)

Blackfoot shows this is not always true, and is a point of variation within the family.
Parametric variation
1. Which prosodic boundary (if any) has edge constraints? This determines the locus of alternation.

2. Can prosodic boundaries mismatch from syllable edges?

3. How are preverbs prosodified? As independent PWds, as a recursive PWd, or something else?
Which prosodic boundary (if any) has edge constraints?

**Blackfoot**
- left edge of stem (initial)
- \([pomm] \sim [ipomm]\) ‘transfer’

**Plains Cree**
- right edge of preverb;
- \([mât] \sim [mâci]\) ‘start’

a. mâtatoskêw ‘s/he begins work’

b. mâci-atoskêw ‘s/he starts working’

(Wolvengrey 2011)
Can prosodic boundaries mismatch from syllable edges?

**Blackfoot**
Always (unless stem begins with a glide)

- a. mâ.ci.-pî.kis.kwêw ‘s/he starts speaking’ match
- b. mâ.ci.-a.tos.kêw ‘s/he starts working’ match
- c. mâ.c-â.tos.kêw ‘s/he starts working’ mismatch

**Plains Cree**
- Before C: never
- Before V: optionally

(Russell 2008; Wolvengrey 2011)
How are preverbs prosodified?

**Blackfoot**

PWd adjunct
(daughter and sister to a PWd)

**Plains Cree**

- Before C: separate PWd
- Before V: internal to PWd or separate PWd (variable?)

a. (mâ.ci)-(pî.kis.kwêw) ‘s/he starts speaking’
b. (mâ.ta.tos.kêw) ‘s/he begins work’
c. (mâ.ci.)-(a.tos.kêw) ‘s/he starts working’
   mâ.ca)-(a.tos.kêw) ‘s/he starts working’
“Dispersed” workshops on Algonquian prosody

- Remote, partly a-synchronous, small groups
- Workshops oriented around concrete questions about prosody
- Goal: develop a set of Algonquian “diagnostic tests” for determining prosody
- So far: Cheyenne, Blackfoot, a bit of Plains Cree, a bit of Saulteaux Ojibwe
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References


