Phase-based constraints within Match Theory

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Overview

Blackfoot (Algonquian) verbal complex contains:

- Phonology: two distinct phrasal domains
- Phrasal syntax: VP/*v*P, IP, CP

Phonological evidence: morpheme alternations; transcriptions based on orthography in dictionary.

Thesis: Match Theory (Selkirk 2011) cannot account for two types of "phrasal" correspondence.

Proposal: Match *v*P/VP phases to prosodic constituents, even "below the word".

Syntax

Stem is a phrasal VP/*v*P:

- Intransitive: $[\sqrt{\text{ROOT}}\text{–}[\text{V}]_{\text{VP}}]_{\text{VP}}$
- Transitive: $[\sqrt{\text{ROOT}}\text{–}[v\text{–}[\text{V}]_{\text{VP}}]_{v\text{P}}]_{v\text{P}}$

Minimal verbal complex: stem plus suffixes (I^0, C^0). Prefixes optional; some required by clause type.

$[(\text{prefix}^*)\text{–}\ [\sqrt{\text{ROOT}}\text{–}v\text{–}\text{V}]_{v\text{P}}\text{–}I^0\text{–}C^0]_{\text{CP}}$

⟦i:pi^{s}tótsit⟧ Imperative
$[[\text{yiip–istot–i}]_{v\text{P}}\text{–t–Ø}]_{\text{CP}}$
$[[\text{decrease–CAUS.}v\text{–TI1}]_{v\text{P}}\text{–2SG.IMP–CMD}]_{\text{CP}}$
'decrease the volume of it!'

⟦nitáji:pi^{s}totsi?pa̧⟧ Independent
$[\text{nit–a–}\ [\text{yiip–istot–i}]_{v\text{P}}\text{–t–Ø}]_{\text{CP}}$
$[\text{1–IPFV–}\ [\text{decrease–CAUS.}v\text{–TI1}]_{v\text{P}}\text{–2SG.IMP–CMD}]_{\text{CP}}$
'I am decreasing the amount'

Results: the stem domain is distinct from the verbal complex domain

1. Stem domain: syllable-driven epenthesis, causes [k]-assibilation to [k͡s].

After C	After V
⟦nitâ:k͡sox^{w}ksi**p**ista:⟧	⟦amo**p**i^{s}ta:ni̥⟧
nit–aak–[yoohk–**p**ist–aa]–(hp)	[[amo–**p**ist–aa]–n]–i
1–FUT–[lid–**tie.***v*–AI]–(IND)	[[gather–**tie.***v*–AI]–NMLZ]–IN.SG
'I will close the tipi flap'	'ceremonial bundle'

Contrasts with: vowel-initial suffixes, which coalesce with preceding vowel

2. Across right edge of stem: epenthesis does *not* cause [k]-assibilation.

After C	After V
⟦nitsikákomɪm:okɪ**n:**a:ni⟧	⟦nitsikákomɪm:ʌ**n:**a:ni⟧
nit–ik–[akom–imm–ok]–Ø–**nn**aan–i	nit–ik–[akom–imm–aa]–Ø–**nn**aan–i
1–DEG–[favor–by.mind.*v*–INV]–IND–**1PL**–3PL	1–DEG–[favor–by.mind.*v*–3OBJ]–IND–**1PL**–3PL
'They love us (excl.).'	'We (excl.) love them.'

3. Across left edge of stem: √ROOT alternations determined by alignment to prosodic edges, not by syllable structure.

Left edge of verbal complex	After C	After V
⟦**p**ʊm:ó:s⟧	⟦â:k͡sipóm:oji:wájį̥⟧	⟦é:**p**ʊm:akiwa̧⟧
[**p**omm–o–:s]–Ø	aak–[i**p**omm–o–yii]–Ø–w = ayi	a–[i**p**omm–Ø–aki]–Ø–wa
[**transfer**–*v*–2SG:3.IMP]–CMD	FUT–[**transfer**–*v*–3SUB]–IND–3 = OBV.SG	IPFV–[**transfer**–*v*–AI]–IND–PRX
'transfer to him!'	'he will transfer it to her'	'the one transferring'

4. √ROOT alternations *avoid* certain segments at each left edge. (Verbal complex: *[-cons]; stem: *[-cont])

	[-cont]							[-cons]		Vowels (nucleic [-cons])							
	p	t	^{s}t	k	k͡s	m	n	j	w	i:	o:	ɛ:	ɔ:	a:	i	o	a
Left edge of verbal complex	✓	✓	✓	✓	✓	✓	✓	X	X	✓	✓	✓	✓	✓	✓	✓	✓
Left edge of stem (after prefix)	X	X	X	X	X	X	X	✓	✓	✓	✓	X	X	X	✓	✓	✓

5. Two distinct prosodic constituent types:
   - Verbal complex = CP, p-domain = { }
   - Stem = VP/*v*P, p-domain = ( )

{prefix*– (√ROOT–*v*–V) –I^0–C^0}
*[-cons] *[-cont]
assibilation blocked across edge

Problems for Match Theory

Default correspondences:

"clause" (= CP) ↔ Intonational Phrase (ι, IPh)
"phrase" (= XP) ↔ Phonological Phrase (φ, PPh)
"word" (= Lex^0) ↔ Prosodic Word (ω, PWd)

Problems:

1. Smallest prosodic domain ≠ syntactic head (X^0 are bound, functional suffixes)
2. Not all XPs are a phonological phrase (XPs = a { } domain, a ( ) domain, or neither)
3. No constraint ranking solves these issues

Revision

Phase II: CP ↔ PPh/IPh
Phase I: VP/*v*P ↔ PWd

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Analysis: MATCH as correspondence constraints (Ito and Mester 2019; Weber 2020)

Given an input syntactic representation *S* and an output phonological representation *P*, such that *S*ℜ*P*,

- MATCH-∃(VP/*v*P→PWd) (M-∃(*v*P)): Assign a violation mark for every *v*P/VP in *S* which does not have a correspondent PWd in *P*.
- MATCH-∃(PWd→VP/*v*P) (M-∃(PWd)): Assign a violation mark for every PWd in *P* which does not have a correspondent *v*P/VP phase in *S*.

EQUALSISTERS (EQSIS): Sister nodes in prosodic structure are instantiations of the same prosodic category. (Myrberg 2013)

BINMIN (BIN): A PPh must consist of at least two prosodic words. (Inkelas and Zec 1995)

①

[[stem] $_{v\text{P}}$–suf] $_{\text{CP}}$	M-∃(*v*P)	M-∃(PWd)	EQSIS	BIN
☞ {(stem)-suf}			*	*
{(stem)-(suf)}		*!		
{stem-(suf)}	*!	*!	*	*

- Alignment Theory for edge mismatches
- *#[-cont]: Assign a violation mark for every [-cont] segment which is exhaustively dominated by a syllable and occurs leftmost within the PWd.

[a–[pomm–Ø–aki] $_{v\text{P}}$–Ø–wa] $_{\text{CP}}$	*# [-cont]	Al(√Rt,PWd)	Dep(μ)	Al(PWd,σ)	*V:
{á.(pʊm.ma.ki).wa̧ }	*!				
☞ {é(.pʊm.ma.ki).wa̧ }		μ	*	*	*
{é:.(pʊm.ma.ki).wa̧ }	*!		*		*
{(é:.pʊm.ma.ki).wa̧ }		μμ!	*		*

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