

Yale

On the misalignment of prosodic edges and syllables

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Introduction

Prosodic edges may align with syllable edges at the *expense* of syntax-prosody alignment.

Syntax: ...C-{V... ...V-{V... ATTESTED?

Prosody: C{V.[... V{V.[... P-to- σ align \gg S-to-P align **IsiXhosa**
 ... [.C{V. [.V{V. P-to- σ align \gg S-to-P align **KiHehe**

{ = left edge of stem, [= left edge of prosodic stem

(Downing 1998b; McCarthy and Prince 1993a; Nespor and Vogel 2007)

IsiXhosa reduplication

RED base is a prosodic constituent; **stem-initial vowel** not included

A. CONSONANT-INITIAL STEMS

ukú-{[phátha	ukú- <u>phathá</u> -{[phatha	'touch'
ukú-{[sebénza	ukú- <u>sebe</u> -{[sebénza	'work'

B. VOWEL-INITIAL STEMS, INFIXING

ukw-{á[látha	ukw-{á- <u>lathá</u> -[latha	'point at'
uk-{ó[phúla	uk-{ó- <u>phulá</u> -[phula	'break'

{ = left edge of stem, [= left edge of prosodic stem

(Cassimjee 1994; Downing 1998a,b)

KiHehe reduplication

RED base is a prosodic constituent; prefix-final consonant included

A. CONSONANT-INITIAL STEMS

kú-[ceénga kú-ceenga-{[ceénga ‘build’

kú-[teléka kú-teleka-{[teléka ‘cook for’

B. VOWEL-INITIAL STEMS, “EXFIXING”

[**kw**-{íimbíla kw-íimbila-[**kw**-{iimbíla ‘sing’

[**kw**-{áaka kw-áaka-[**kw**-{áaka ‘burn’

{ = left edge of stem, [= left edge of prosodic stem

(Downing 1998a; Odden and Odden 1985)

Introduction

Prosodic edges may align with syllable edges at the *expense* of syntax-prosody alignment.

Often taken as evidence that prosodic constituents are distinct from syntactic constituents
(Indirect Reference)

“PROSODIC CONSTITUENTS”

- “interface categories” extrinsically defined by their relation to syntax
- not metrical, rhythmic, or sonority-related categories like feet and syllables

(Itô and Mester 2012)

(Inkelas 1993; Nespor and Vogel 2007; Pierrehumbert and Beckman 1988; Selkirk 1984)

Introduction

Prosodic edges and syllable edges may misalign to maintain syntax-prosody alignment.

Syntax: ...C-{V... ...V-{V... ATTESTED?

Prosody: C{V.[... V{V.[... P-to- σ align \gg S-to-P align IsiXhosa

 ... [.C{V. [.V{V. P-to- σ align \gg S-to-P align KiHehe

 ...C{[V.V{[V. S-to-P align \gg P-to- σ align ???Blackfoot

{ = left edge of stem, [= left edge of prosodic stem

Outline

1. Language background and syllable structure
2. Evidence for the left edge of a prosodic constituent
3. Evidence that syllables span the left edge
4. Arguments against syntax-prosody misalignment for Blackfoot
5. Summary

Language background and syllable structure

Blackfoot (Algonquian family)

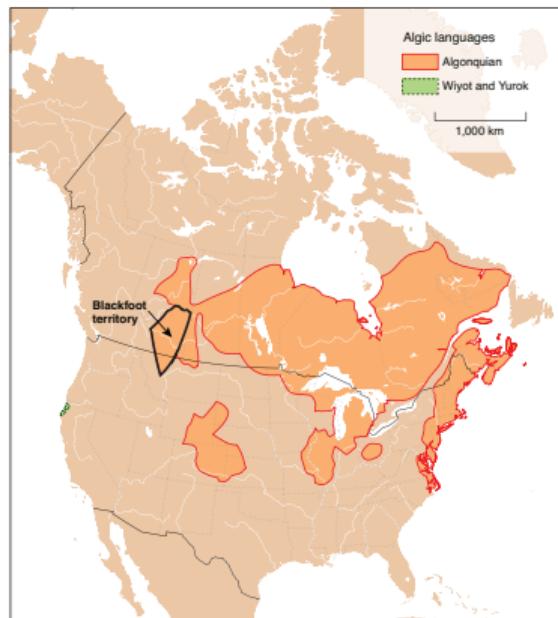


Figure 1: Map by Eric Leinberger.

(Frantz 2009; Frantz and Russell 2017)

Syntax and prosody

- Verbal complex = CP Phonological Phrase (PPh)
- Stem = VP/vP Prosodic Word (PWD)

SYNTAX CP { prefix- _{vP} { √ROOT-v-V } _{vP} -I⁰-C⁰ } CP

PROSODY PPh [prefix- _{PWd} [√ROOT-v-V] _{PWd} -I⁰-C⁰] PPh



(Bliss 2013; Déchaine and Weber 2015, 2018; Déchaine and Wiltschko 2010; Weber 2020)

Data sources

- Fieldwork with native speakers (for: phonology and syllable structure sections)
 - Especially Totsinámm (Beatrice Bullshields; BB)
- Reference materials (for: morpheme alternations)
 - Grammar (Frantz 2017)
 - Dictionary (Frantz and Russell 2017)

Phonological inventory

	Labial	Coronal	Dorsal	Glottal
Stops	p p:	t t:	k k:	? <'>
Assibilants		ts t:s	ks	
Pre-assibilants		^s t ^s t:		
Fricatives		s s:	x <h>	
Nasals	m m:	n n:		
Glides	w	j <y>	(w)	

	front	central	back
high	i i:		o o:
mid	ɛ: <ai>		ɔ: <ao>
low		a a:	

Doubled letters for long segments.

(Derrick and Weber n.d.; Weber 2020)

Syllable structure

Diagnostics for syllabification:

(later used to show that C-V and V-V are syllabified across a morpheme boundary)

1. Vowel length neutralized before codas
2. Onsetless syllables resolved via coalescence or epenthesis
3. Codas restricted to /?, /s/, /x/, geminate

Analysis: Optimality Theory framework

(McCarthy and Prince 1993a,b; Prince and Smolensky 1993)

Syllable structure: vowel length neutralized before codas

Contrastive vowel length in open syllables.

CV [?â:.k~~o~~.ka:] ‘he will rope’ (BB)

CVV [?â:.k~~o~~_x.ka:] ‘she will hold a Sundance’ (BB)

SHORT VOWELS

μ

|

V

LONG VOWELS

$\mu \quad \mu$

\\

V

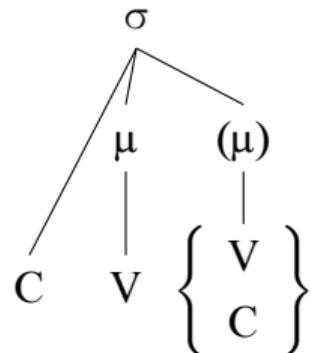
(Hayes 1989; Hyman 1985; Pulleyblank 1994)

Syllable structure: vowel length neutralized before codas

Vowel length neutralization before codas.

CV	[po. no .kâ:]	'elk'	(BB)
CVV	[po?. tó: .ki.t]	'let go of me!'	(BB)
CVC	[só. ka? .si.m]	'shirt, dress'	(BB)
	[? m .mo.já:.n]	'fur coat'	(BB)
CVVC	—	—	

MAXIMAL SYLLABLE



Diagnostic for codas: preceding vowel is short

Syllable structure: onsetless syllables resolved

Vowel coalescence avoids onsetless syllables inside of the PPh

Vowel-initial suffix: /-ip/ ‘bring’

AFTER C

[?omatsípi:s]

{√omat–**ip**/i–:s}–Ø

{√start–bring/v–2SG:3.IMP}–CMD

‘transport him!’

AFTER V

[səpí:s]

{√sa–**ip**/i–:s}–Ø

{√out–bring/v–2SG:3.IMP}–CMD

‘bring her out!’

Syllable structure: onsetless syllables resolved

ONS ≫ UNIF

/sa-ip/i:-s/	ONS	MAX(μ)	DEP	*DIPH	UNIF	*V:
a. sa.i.pí:s	*!					
b. sa.pí:s		*!				
c. sa.ji.pí:s			*!			
d. sai.pí:s				*!		
e.  se:.pí:s					*	*
f. se.e.pí:s	*!				*	

A coalesced vowel is syllabified as a single nucleus

(Elfner 2006; Weber 2020)

Syllable structure: onsetless syllables resolved

Epenthesis avoids onsetless syllables at the beginning of the PPh

[?apít] ‘sit!’ (BB)

[?imitâ:] ‘dog’ (BB)

[?otán] ‘his/her daughter’ (BB)

/ap-ii-t/	ONS	MAX(μ)	DEP	*DIPH	UNIF	*V:
a. a.pí:.t	*!					
b. pí:.t		*				
c. ?a.pí:.t			*			

(Elfner 2006; Weber 2020)

Syllable structure: epenthesis avoids illicit clusters

Codas restricted to /?, /s/, /x/, geminate

[ko?[?].ki] ‘corner’ (BB)

[p^Λs.ká:.n] ‘dance’ (BB)

[óx^w.ko.to.ki] ‘rock’ (BB)

[m^ot.to.ks.í.s] ‘knee’ (BB)

Syllable structure: epenthesis avoids illicit clusters

Epenthesis avoids illicit clusters

Consonant-initial suffix: /-p/ ‘tie’

AFTER C

[?a:k̪sip̪ísta:t]

{√aak̪-p̪/ist-aa}-t-Ø

{√lid-tie/v-V}-2SG.IMP-CMD

‘use that pole!’

AFTER V

[a:wáp̪ista:t]

{√aawa-p̪/ist-aa}-t-Ø

{√wander-tie/v-V}-2SG.IMP-CMD

‘make a cradle swing!’

Syllable structure: epenthesis avoids illicit clusters

CODACOND, MAX ≫ DEP

/ko?ki/	CODACOND	MAX	DEP	DEP(μ)	*COD
a. ko?.ki					*
b. ko.?i.ki			*!	*	
c. ko.ki		*!			

/a:k-pist-a-t/	CODACOND	MAX	DEP	DEP(μ)	*COD
a. ?ak.pí.sta:t	*!		*		*
b. ?a:.ksi.pí.sta:t			**	*	
c. ?a:.pí.sta:t		*!	*		

(Itô 1989)

Syllable structure: summary diagnostics

1. Vowel length neutralized before codas
2. Onsetless syllables resolved via coalescence or epenthesis
 - Onsetless syllables are not allowed
 - Coalesced vowels form a single syllable nuclei
3. Codas restricted to /ʔ/, /s/, /x/, geminate
 - Illicit clusters avoided via [i] epenthesis

Evidence for the left edge of a prosodic constituent

Evidence for the left edge of a prosodic domain

- Phonologically active constraint against [-cont] segments
- Drives roots alternations, including a productive pattern of epenthesis at left edge
- Evidence: vowel-initial and obstruent-initial roots in two positions.
 - **Left edge** of the PPh (e.g. PWd and PPh are not distinct)
 - **After prefix** (e.g. PWd and PPh are distinct)

SYNTAX	$\text{CP} \{ (\text{prefix}-) \quad \text{vP} \{ \sqrt{\text{ROOT}}-\nu-\text{V} \quad \} \}_{\text{vP}}^{-\text{I}^0-\text{C}^0} \}_{\text{CP}}$
LEFT EDGE	$\text{PPh} [\quad \text{PWd} [\sqrt{\text{ROOT}}-\nu-\text{V}]_{\text{PWd}} \quad -\text{I}^0-\text{C}^0]_{\text{PPh}}$
AFTER PREFIX	$\text{PPh} [\text{prefix}- \quad \text{PWd} [\sqrt{\text{ROOT}}-\nu-\text{V}]_{\text{PWd}} \quad -\text{I}^0-\text{C}^0]_{\text{PPh}}$

Roots which begin with a short vowel {i, o, a}

LEFT EDGE

[?i.tsí.nx^w.to:.t]

{√itsin-oht-oo}-t-Ø

{√among-put.v-V}-2SG.IMP-CMD

'place it among the rest!'

AFTER C

[?â:.ki.tsi.nx^w.to:.mä]

aak-{√itsin-oht-oo}-m-a

FUT-{√among-put.v-V}-IND-3

'he will place it among the rest'

AFTER V

[?éi.tsí.nx^w.to:.má.jí]

a-{√itsin-oht-oo}-m-Ø=ayi

IPFV-{√among-put.v-V}-IND-3=OBV.SG

'he is placing it among the rest'

Roots which begin with a short vowel {i, o, a}

LEFT EDGE

[?o.ká:t]

{√ok-aa}-t-Ø

{√snare-V}-2SG.IMP-CMD

‘rope!’

AFTER C

[?â:.ko.ka:.wã]

aak-{√ok-aa}-Ø-wa

FUT-{√snare-V}-IND-3

‘he will rope’

AFTER V

[?ó:.ka:]

a-{√ok-aa}-Ø-wa

IPFV-{√snare-V}-IND-3

‘he is roping’ (BB)

Roots which begin with a short vowel {i, o, a}

LEFT EDGE

[?a.tsi.ní.ki.t]

{√atsinik-i}–t–Ø

{√relate.story–V}–2SG.IMP–CMD

‘relate a story!’ (BB)

AFTER C

[?â:.ki.tsi.ni.ki.wä]

aak–{√itsinik-i}–Ø–wa

FUT–{√tell.story–V}–IND–3

‘s/he will relate a story’

AFTER V

[?éi.tsi.ni.ki.wä]

a–{√itsinik-i}–Ø–wa

IPFV–{√tell.story–V}–IND–3

‘s/he is relating a story’

Roots which begin with a short vowel {i, o, a}

LEFT EDGE

[?**a**.kʂ.tá.ki.t]

{√**a**k–st–aki}–t–∅

{√count–v–V}–2SG.IMP–CMD

‘read!’ (BB)

AFTER C

[?â:.**ko**.kʂ.ta.ki.wa]

aak–{√**o**k–st–aki}–∅–wa

FUT–{√read–v–V}–IND–3

‘s/he will read’

AFTER V

[?**ɔi**.kʂ.ta.ki.wa]

a–{√**o**k–st–aki}–∅–wa

IPFV–{√read–v–V}–IND–3

‘s/he is reading/counting’

Roots which begin with a short vowel {i, o, a}

Root alternations, modulo coalescence

	LEFT EDGE	AFTER PREFIX	UR	GLOSS
a.	[?itsin]	~ [itsin]	/itsin/	‘among’
b.	[?ok]	~ [ok]	/ok/	‘snare’
c.	[?atsinik]	~ [itsinik]	/atsinik, itsinik/	‘relate a story’
d.	[?ak]	~ [ok]	/ak, ok/	‘count’
e.	*[?aC]	~ [aC]		

(phonologically optimizing allomorphy; Mascaró 2007)

Roots which begin with an obstruent

LEFT EDGE

[**pum**:ó:s]

{√**pomm**–o–:s}–Ø

{√**transfer**–v–2SG:3.IMP}–CMD

‘transfer (e.g. the medicine bundle) to him!’

AFTER C

[?â:**ksip**úm:oji:wájí]

aak–{√**pomm**–o–yii}–Ø–w=ayi

FUT–{√**transfer**–v–3SUB}–IND–3=OBV.SG

‘he will transfer it to her’

AFTER V

???

[?**é:pum:akiwá**]

a–{√**pomm**–Ø–aki}–Ø–wa

IPFV–{√**transfer**–v–V}–IND–PRX

‘the one transferring (previous owner)’

Roots which begin with an obstruent

/a:k-pomm-o-yii-w=ayi/	CODACOND	MAX	DEP	DEP(μ)	UNIF	*V:	*COD
a. ?â:k.póm.mo.jí:.wá.jí	*!	*				*	**
☞ b. ?â:.ksi.póm.mo.jí:.wá.jí		**	*			*	*
c. ?â:.póm.mo.jí:.wá.jí	*!	*				*	*

/a-pomm-aki-wa/	CODACOND	MAX	DEP	DEP(μ)	UNIF	*V:	*COD
☞ a. ?á.pum.ma.ki.wä		*					*
⌚ b. ?é:.pum.ma.ki.wä		**!	*		*	*	*

Change in vowel quality and length is not driven by syllable structure constraints

1. Roots have the same form after consonants or vowels

	LEFT EDGE	AFTER C	AFTER V	GLOSS	
a.	[mɔ:xk]	[omɔ:xk]	[omɔ:xk]	‘red’	Ø ~ V
	[na:n]	[ina:n]	[ina:n]	‘possess’	
b.	[ma:n]	[an]	[an]	‘recent’	N ~ Ø, V: ~ V
	[ni:po]	[ipo]	[ipo]	‘upright’	
c.	[pom:]	[oxpom:]	[oxpom:]	‘buy’	Ø ~ ox
d.	[kipita]	[ip:ita]	[ip:ita]	‘aged’	Ø ~ i, gemination
e.	[pom:]	[ipom:]	[ipom:]	‘transfer’	Ø ~ i

2. Root alternations avoid plosives and nasals after a prefix

Table 1: Segments allowed at left edge of roots in two positions

	p	k	m	n	j	w	iː	oː	ɛː	ɔː	aː	i	o	a
Left edge	✓	✓	✓	✓	✓	X X	X	X	X	X	X	X	X	X
After prefix	X	X	X	X	✓	✓	✓	✓	X	X	X	✓	✓	✓

[-cont] [-cons]

PROPOSAL

Root alternations and epenthesis occur to satisfy an *#[**-CONT**] edge constraint at the left edge of the PWd.

Left edge constraint triggers epenthesis

- ***#[‐cont]** Assign a violation mark for every [‐cont] segment which is leftmost in the PWd.
- **AL(PWd,σ)** The left edge of every PWd aligns with the left edge of a σ.

C_DC_ND, ONSET, *#[‐CONT] ≫ D_EP ≫ UNIF, D_EP(μ), AL(PWd,σ), *V: ≫ *C_OD

Left edge constraint triggers epenthesis

AFTER V: *#[**-CONT**] ≫ DEP, DEP(μ)

a-{pom:-aki-wa	CdCND	ONS	*#[-CONT]	DEP	UNIF	DEP(μ)	AL(PWd, σ)	*V:	*COD
a. ?á.{[pum.ma.ki.wə			*!	*					*
b. ?á.[?í.{pum.ma.ki.wə				***!		*			*
c. ?é[é.{pum.ma.ki.wə				**	*	*	*	*	*

Optimal candidate violates AL(PWd, σ)

(NB: discussion of other ways to avoid violations of AL(PWd, σ) in later sections...)

Left edge constraint triggers epenthesis

AFTER C: CODACOND, *#[‐CONT] ≫ DEP, DEP(μ)

aak-{pom:-o-ii-w=ayi	CdCND	ONS	*#[‐CONT]	DEP	UNIF	DEP(μ)	AL(PWd, σ)	*V:	*COD
a. ?âk.{[póm.mo.jí:.wá.jí	*		*	*					**
b. ?â:.ks[i.{póm.mo.jí:.wá.jí				**		*	*	*	

Optimal candidate violates AL(PWd, σ)

(NB: discussion of other ways to avoid violations of AL(PWd, σ) in later sections...)

Left edge constraint triggers epenthesis

LEFT EDGE

{pom:-o:-s	CdCND	ONS	*#[‐CONT]	DEP	UNIF	DEP(μ)	AL(PWd, σ)	*V:	*COD
☺ a. {[pum.mó:-s			*!					*	*
☞ b. [?i.{pum.mó:-s				**		*		*	*
c. ?[i.{pum.mó:-s				**		*	*!	*	*

Solution: epenthesis of a mora at left edge of PPh must be blocked

Diagnosing the left edge of the the vP/VP

- ANCHOR-L[μ]: Assign a violation if the leftmost mora in a CP in the input has a correspondent in the output which is not leftmost within a PPh in the output.

LEFT EDGE: ANCHOR-L[μ] ≫ *#[−CONT]

{pom:-o:-s	ANCH-L	CdCND	ONS	*#[−CONT]	DEP	UNIF	DEP(μ)	AL(PWd,σ)	*V:	*μ/C
a. {[pum.mó:.s				*					*	*
b. [?i.{pum.mó:.s	*				**		*		*	*
c. ?[i.{pum.mó:.s	*				**		*	*	*	*

Diagnosing the left edge of the the vP/VP: summary

Evidence for the left edge of the Prosodic Word (PWd)

- Edge restriction against [-cont] segments
- Triggers root alternations, including epenthesis

Holds of a *prosodic* constituent, not a syntactic constituent (cf. indirect reference theories)

- Active phonological constraint (not a Morpheme Structure Constraint)
- Phonological generalizations apply to prosodic constituents

Diagnosing the left edge of the the vP/VP: summary

SYNTAX { prefix-{ √_{ROOT-v-V} }_{vP}-I⁰-C⁰ }_{CP}

PROSODY C{[V. ...
 V{[V. ...

TWO FURTHER CLAIMS

1. Evidence that syllables span the left edge of the PWd constituent
2. Arguments against syntax-prosody misalignment for Blackfoot

Evidence that syllables span the left edge

Evidence that syllables span the left edge: C-V syllabification

[?â:. ks[i].póm.mo.ji:.wá.ji]

aak-{ $\sqrt{\text{pomm}}$ -o-yii}-Ø-w=ayi

FUT-{ $\sqrt{\text{transfer}}$ -v-3SUB}-IND-3=OBV.SG

'he will transfer it to her'

- Final [ks] of prefix is not a coda
 - Preceding vowel length is not neutralized
- Initial [i] of stem is not at the left edge of a syllable
 - Onsetless syllables are prohibited in Blackfoot

aak-{pom:-o-ii-w=ayi	CdCND	ONS	*#[-CONT]	DEP	UNIF	DEP(μ)	AL(PWd, σ)	*V:	*COD
a. ?âk.{[póm.mo.ji:.wá.ji]	*!		*	*					**
b. ?â:.ks[i.{póm.mo.ji:.wá.ji]				**		*	*	*	
c. ?âk.[i.{póm.mo.ji:.wá.ji]	*!*	!*!		**		*			**
d. ?âk.[?i.{póm.mo.ji:.wá.ji]	*!*	**!		***		*			**

(also true of underlying C-V sequences)

Evidence that syllables span the left edge: V-V syllabification

[?é:pum:akiwə]

a-{√pomm-Ø-aki}-Ø-wa

IPFV-{√transfer-v-V}-IND-PRX

'the one transferring (previous owner)'

- Long [é:] is a single syllable nucleus
 - Vowel coalescence has occurred
 - Cannot be two vowels in hiatus
 - Onsetless syllables are prohibited in Blackfoot

a-{pom:-aki-wa}	CDCND	ONS	*#[-CONT]	DEP	UNIF	DEP(μ)	AL(PWd,σ))	*V:	*COD
a. ?á.{[pom.ma.ki.wə]			*!	*					*
b. ?é[é.{pum.ma.ki.wə				**	*	*	*	*	*
c. ?é.[é.{pum.ma.ki.wə		*		**	*	*			*
d. ?é.[?é.{pum.ma.ki.wə				***!	*	*			*

(also true of underlying V-V sequences)

Arguments against syntax-prosody misalignment for Blackfoot

Arguments against syntax-prosody misalignment

- Some suboptimal candidates satisfy $AL(PWd, \sigma)$ by violating MATCH (S-to-P alignment)
 - This requires a redefinition of MATCH constraints (Elfner 2012; Selkirk 2011)
 - MATCH is violated by over- or underparsing underlying material
 - ...but not by epenthesis or deletion

Match Theory (Selkirk 2011; Selkirk 2009)

- MATCH constraints require exact correspondence between syntactic and prosodic constituents.
- Parallel evaluation of constraints in Optimality Theory
- MATCH constraints can be violated in order to satisfy higher-ranked constraints.

SYNTAX-PROSODY CORRESPONDENCES IN MATCH THEORY

“syntactic clause” \longleftrightarrow ι (intonational phrase)

“syntactic phrase” \longleftrightarrow ϕ (phonological phrase)

“syntactic word” \longleftrightarrow ω (prosodic word)

Defining MATCH constraints

Let S be an input syntactic representation and P its corresponding output phonological representation.

- $\text{MATCH}(\alpha, \pi)$: Suppose there is a syntactic constituent α in the syntactic representation that exhaustively dominates a set of one or more terminal nodes A. Assign one violation mark if there is no phonological constituent π in the phonological representation that exhaustively dominates all and only the phonological exponents of the terminal nodes in A.

For Blackfoot: $\text{MATCH}(vP, PWd)$ is relevant

(based on MATCH-PHRASE in Elfner 2012; Selkirk 2011)

Problems with MATCH constraints

$*\#[-\text{CONT}] \gg \text{MATCH}(\text{vP}, \text{PWD})$

a-{pom:-aki-wa	CD	CND	ONS	$*\#[-\text{CONT}]$	<u>MATCH</u>	DEP	UNIF	DEP(μ)	AL(PWd, σ))	*V:	*COD
a. ?á.{[pum.ma.ki.wa				*		*					*
b. ?é[é.{pum.ma.ki.wa				*	**	*	*	*	*	*	*

Correct candidate violates $\text{MATCH}(\text{vP}, \text{PWD})$

Problems with MATCH constraints

a-{pom:-aki-wa	CdCND	ONS	*#[-CONT]	MATCH	DEP	UNIF	DEP(μ)	AL(PWd, σ)	*V:	*COD
a. ?á.{[pum.ma.ki.wə			*!		*					*
b. [?á.{pum.ma.ki.wə				*	*					*
c. ?é[é.{pum.ma.ki.wə				*	**!	*	*	*	*	*

Correct candidate is harmonically bound by a candidate that overparses the PWd!

Problems with MATCH constraints

a-{pom:-aki-wa	CdCND	ONS	*#[-CONT]	MATCH	DEP	UNIF	DEP(μ)	AL(PWd, σ)	*V:	*COD
a. ?á.{[pum.ma.ki.wə			*!		*					*
b. [?á.{pum.ma.ki.wə				*	*					*
c. ?é[é.{pum.ma.ki.wə				*	**!	*	*	*	*	*
d. [?é:{pum.ma.ki.wə				*	**!	*	*		*	*
e. ?é:{[pum.ma.ki.wə			*!		**	*	*		*	*

TWO PROBLEMS

1. MATCH should penalize overparsing (b), but *not* epenthesis (c) and (d)
2. MATCH should distinguish overparsing from underparsing (Guekguezian 2017)
 - e.g. IsiXhosa vs. KiHehe, or candidates (d) and (e)

Redefining MATCH constraints

Let S be an input syntactic representation and P its corresponding output phonological representation. Suppose there is a syntactic constituent α in S that exhaustively dominates a set of terminal nodes $A \in S$.

- **Max-SP(α, π)**: Assign a violation mark for every element that (1) is an exponent of a morpheme in A and (2) **has a correspondent in P which** is *not* dominated by a π corresponding to α .
- **Dep-SP(α, π)**: Assign a violation mark for every element that (1) is an exponent of a morpheme that is *not* in A and (2) **(has a correspondent in P which)** is dominated by a π corresponding to α .

(similar to definitions in Downing 1998b; Guekguezian 2017)

Arguments against syntax-prosody misalignment

AFTER V: DEP-SP \gg DEP, AL(PWd, σ)

a-{pom:-aki-wa	CdCND	ONS	*#[‐CONT]	DEP-SP	DEP	UNIF	DEP(μ)	AL(PWd, σ)	*V:	*COD
a. ?á.{[pum.ma.ki.wə̤]			*!		*					*
b. [?á.{pum.ma.ki.wə̤]				*!	*					*
c. ?é[é.{pum.ma.ki.wə̤]					**	*	*	*	*	*
d. [?é.{pum.ma.ki.wə̤]				*!	**	*	*		*	*
e. ?é.{[pum.ma.ki.wə̤]			*!	*	**	*	*		*	*

Arguments against syntax-prosody misalignment

AFTER C: *#[**-CONT**] \gg AL(PWd, σ)

aak-{pom:-o-ii-w=ayi	CDND	ONS	*#[-CONT]	<u>DEP-SP</u>	DEP	UNIF	DEP(μ)	AL(PWd, σ)	*V:	*Cod
a. ?âk.{[póm.mo.ji:.wá.jí	*		*		*					**
b. ?â:.ks[i.{póm.mo.ji:.wá.jí					**		*	*	*	*
c. ?â:.ksi.{[póm.mo.ji:.wá.jí			*		**		*		*	*
d. ?â:[ksi.{póm.mo.ji:.wá.jí			*	*	**		*		*	*

Arguments against syntax-prosody misalignment

LEFT EDGE: ANCH-L $\gg *#[\text{-CONT}]$

{pom:-o:s	ANCH-L	CDCND	ONS	*#[\text{-CONT}]	DEP-SP	DEP	UNIF	DEP(μ)	AL(PWd, σ)	*V:	*Cod
a. {[pum.mó:s				*						*	*
b. [?i.{pum.mó:s	*					**		*		*	*

Summary

Summary

Prosodic edges and syllable edges misalign *systematically* in Blackfoot (Algonquian) to maintain syntax-prosody alignment.

1. EVIDENCE FOR THE LEFT EDGE OF A PROSODIC CONSTITUENT

- Edge restriction against [-cont] segments
- Triggers root alternations, including epenthesis

2. EVIDENCE THAT SYLLABLES SPAN THE LEFT EDGE

- Prefix-final C is an onset, not a coda
- Prefix-final V coalesces with following V

3. ARGUMENTS AGAINST SYNTAX-PROSODY MISALIGNMENT FOR BLACKFOOT

- Optimal candidate with P-to- σ alignment does not epenthsize
- MATCH constraints must ignore epenthesis and deletion

Summary

CONSTRAINTS: M, DEP-SP, MAX-SP, AL(PWd, σ)

FACTORIAL TYPOLOGY:

1. ONSET, AL(PWd, σ) \gg DEP-SP \gg MAX-SP IsiXhosa
2. ONSET, AL(PWd, σ) \gg MAX-SP \gg DEP-SP KiHehe
3. *#[$[-\text{CONT}]$], DEP-SP, MAX-SP \gg AL(PWd, σ) Blackfoot

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