

The interaction of Dorsey's Law and stress

A non-foot-based approach

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Dorsey's Law

$$\begin{bmatrix} -\text{son} \\ -\text{voice} \end{bmatrix} \begin{bmatrix} -\text{syl} \\ +\text{son} \end{bmatrix} \begin{bmatrix} +\text{syl} \end{bmatrix} \rightarrow 1 \ 3 \ 2 \ 3$$

kwe → kewe

kri → kiri

pną → pąną

Basic stress in Winnebago

Bimoraic words

- a. $\sigma_{\mu\mu}$
zíi 'yellow, orange'
níi 'water'
sgáa 'white'
wáa 'snow'
- b. $\sigma_{\mu}\sigma_{\mu}$
hiwáx 'to ask'
hosgáč 'playground'
raǰóx 'to break in the mouth'
wajé 'dress'

Basic stress in Winnebago

Trimoraic words:

- c. $\sigma\mu\mu\sigma\mu$
čiinák 'town'
booká 'to knock over'
haag-rá 'the rear part'
hąąhé 'night'
- d. $\sigma\mu\sigma\mu\sigma\mu$
wanigík 'bird'
hipirák 'belt'
waxirí 'to squash'
giĵiré 'to help'

Basic stress in Winnebago

Quadrimoraic words:

- e. $\sigma\mu\mu\sigma\mu\sigma\mu$
xʃaanáne 'yesterday'
taaníʒu 'sugar'
aačgánaḱ 'to lift out'
həəhé-re 'last night'
- f. $\sigma\mu\sigma\mu\sigma\mu\sigma\mu$
wiščjégéga 'Hare'
hinubáḱə 'second'

Regular stress in DL words

- a. [CVCV́]
keré 'to leave returning'
šoróš 'to be on the way returning'
xurúč 'to inch along'
- b. [CVCV]CV́
šawažók 'you mash'
karahe 'to be on the way returning'
xerehí 'to boil'
- c. [CVCV]CV́CV
šawazókjĭ 'you mash hard'
kerejŭsep 'Black Hawk'
parağŭčge 'in formation'
xorojĭke 'hollow'

Regular stress in DL words

d. CV[CVCV́]

hiperés 'to know'

gisaṅá 'to remove'

rukeréx 'tattoo'

e. CVCV[CVCV́]

hojisaṅa 'recently'

hirupíni 'to twist'

hačakére 'with difficulty'

Regular stress in DL words

- f. CVV[CVCV]
maąšárač 'you promise'
boopéres 'to sober up'
haapúruč 'common elder'
- g. [CVCV][CVCV]
poropóoro 'spherical'
kirikírinx 'thick' (as fluid)
kerepána 'unit of ten'
šuruxúruk 'you earn'

Exceptional stress in DL words

- a. CV[CVCV]C'V
hošawazá 'you are ill'
hikorohó 'to prepare'
hikuruní 'tangled'
- b. CV[CVCV][C'VCV]
wakiripáras 'flat insect'
gikaṅakáṅap 'shiny'
wakirikírik 'slipper elm'
- c. CV[CVCV][C'VCV] [CVCV]
wakiripóropòro 'spherical insect'

Serial restructuring

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- Foot type: L-to-R iamb, noninitial
- Problem: incorrect empirical predictions (*sawažokjí, *šuruxurúk) (Miner 1989)

Faithfulness to prosodic heads

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- Foot type: L-to-R trochee, initial foot extrametrical (Alderete 1995), L-to-R iamb, postaccentuating (Broselow 2008)
- Problem: the analysis depends on the assumption that, in some cases, stress falls on dependants

Two types of ordering

Feeding ordering in Winnebago (epenthetic vowel visible to stress):

Underlying	/xroʃike/
DL	xoroʃike
Stress	xoroʃíke
Output	[xoroʃíke]

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Counterfeeding ordering in Winnebago (epenthetic vowel invisible to stress):

Underlying	/hikroho/
Stress	hikrohó
DL	hikorohó
Output	[hikorohó]

Rule sandwiching

Rule sandwiching in Mohawk (Bye 2001):

Underlying	/wak-njak-s/	/ Δ -k-r- Δ ?/
$\emptyset \rightarrow e/C_CC$	wakenjaks	—
Penult stress	wa'kenjaks	' Δ kr Δ ?
$\emptyset \rightarrow e/C_resonant$	—	' Δ ker Δ ?
Surface	[wa'kenjaks]	[' Δ ker Δ ?]

Two rounds of Dorsey's Law

DL1

Insert a vowel in rising sonority consonant clusters preceding initial/final nuclei.

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Insert a vowel in rising sonority consonant clusters preceding initial/final nuclei.

DL2

Insert a vowel in rising sonority consonant clusters.

Rule sandwiching in Winnebago

Input	/šwažok/	/šwazokjǐ/	/hipres/	/hojisana/	/maʃsarač/
DL1	šawažok	šawazokjǐ	hiperes	hojisana	maʃsarač
Stress	šawažók	šawazókjǐ	hiperés	hojisána	maʃsárač
DL2	—	—	—	—	—
Surface	[šawažók]	[šawazókjǐ]	[hiperés]	[hojisána]	[maʃsárač]

Rule sandwiching in Winnebago

Input	/krepn̩/	/hošwaza/	/wakripras/
DL1	kerep̩n̩	—	wakriparas
Stress	kereṕ̩n̩	hošwazá	wakripáras
DL2	—	hošawazá	wakiripáras
Output	[kereṕ̩n̩]	[hošawazá]	[wakiripáras]

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- Stressed syllables must have a high-sonority peak: Zabiče Slovene (Crosswhite 1999), Mokshan Mordwin (Kenstowicz 1994)
- Initial syllables must have low-sonority onsets: Mongolian (Ramsey 1987), Kuman (Lynch 1983, Blevins 1994), Mbabaram (Dixon 1991), Campidanian Sardinian (Bolognesi 1998)

Strong positions in Winnebago

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- Initial syllables –psycholinguistically salient, phonologically salient in numerous languages
- Final syllables –statistically good predictors of stress in Winnebago (stress final in bimoraic and trimoraic words)
- Application of DL1 prevents consonant clusters preceding stressed vowels

DL constraints

- DL1 - Positional constraints: $[*\text{CRV}]/\sigma_1$
 $\forall x, x$ is σ_1 , and V is the syllable nucleus, V is not preceded by a rising sonority consonant cluster
 $[\text{*CRV}]/\sigma_{\text{fin}} \forall x, x$ is σ_{final} , and V is the syllable nucleus, V is not preceded by a rising sonority consonant cluster

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 $[*CRV]/\sigma_{\text{final}} \forall x$, x is σ_{final} , and V is the syllable nucleus, V is not preceded by a rising sonority consonant cluster
- DL2 - global constraint: $*CRV$
 $\forall V$, V is the syllable nucleus, V is not preceded by a rising sonority consonant cluster

Stress constraints

[μμú]

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[μμú]

*EXTLAPSEL \gg AL-R(Stress,PWd) \gg AL-L(Stress,PWd) (based on Gordon 2002)

Stress constraints


[μμί

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	μμμμ	*EXTLAPSEL	AL-R	AL-L
a.  μμίμ			*	**
b. μίμμ			**!	*
c. μμμί		*!		***


DL1 in Stratal OT

Stem Level

wakripras	$[\ast\text{CRV}]/\sigma_{\text{in}}$	$[\ast\text{CRV}]/\sigma_{\text{fin}}$	$[\mu\mu\mu]$	DEP-V	$\ast\text{CRV}$
a.  wa.kri.pá.ras				*	*
b. wa.ki.rí.pa.ras				$\ast!^{\ast}$	
c. wa.kri.pa.ras			*!	*	*
d. wa.kri.prás		*!			**

DL2 in Stratal OT

Word Level:

	wakripáras	*CRV	IDENT(Stress)	DEP-V	[μμμί]
a. 	wakiripáras			*	*
b.	wakripáras	*!			
c.	wakiríparas		*!	*	

Stratal OT

Stem Level:

hošwaza	$[*CRV]/\sigma_{in}$	$[*CRV]/\sigma_{fin}$	$[\mu\mu\acute{\mu}]$	DEP-V	*CRV
a. hošwazá					*
b. hošawáza				*!	

Word Level:

hošwazá	*CRV	IDENT(Stress)	DEP-V	$[\mu\mu\acute{\mu}]$
a. hošawazá			*	*
b. hošwazá	*!			
c. hošawáza		*!		

Summary

- Rule sandwiching analysis splits Dorsey's Law into two processes: positionally restricted epenthesis (DL1), and global epenthesis (DL2)

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- Rule sandwiching analysis splits Dorsey's Law into two processes: positionally restricted epenthesis (DL1), and global epenthesis (DL2)
- Interaction of Dorsey's Law and stress in Winnebago can be analysed independently of conditions on foot well-formedness

Thank you!