The interaction of Dorsey's Law and stress. A non-foot-based approach.

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Winnebago/Hocank employs a type of epenthesis known as Dorsey's Law (DL, Miner 1980), where epenthetic vowels are only partially visible to stress assignment rules. There are both empirical and theoretical problems with the existing analyses, most of which build up on repair strategies for foot structures destroyed by epenthetic morae (Hale and White Eagle (1980), Halle and Vergnaud (1987)), or on positional faithfulness to prosodic heads (Alderete (1995), Broselow (2001)). The current proposal develops an alternative analysis of the interaction of stress and DL, conditioned by positional salience of word-edges, rather than prosodic structure.

The canonical stress pattern in Winnebago (primary stress on the third mora from the left, thereafter on every other mora), is for the most part, not disrupted by epenthetic vowels (1). However, in some cases, epenthetic vowels are invisible to stress assignment, causing the main stress to fall on the fourth mora from the left (2). A closer scrutiny of the data reveals that the epenthetic vowels visible to stress assignment rules invariably precede a word initial, or word final nucleus. This observation serves as the basis for the current proposal, which is that Dorsey's Law applies in two stages: first in a specific environment before stress assignment, then in a general environment after stress assignment (*rule-sandwiching* (Bye 2001)). The stress assignment rules are sandwiched between the former and the latter type of epenthesis. Stress rules and the second round of DL apply in a counterfeeding order, giving rise to an opaque interaction (3).

The special status of initial and final nuclei can be motivated by some universal psycholinguistic factors, as well as by language-specific stress facts. It is a common observation that word edges enjoy a cross-linguistically prominent status as licensors for stress (Hyman 1977), and extraprosodicity (Liberman and Prince 1977). Word onsets are, in addition, perceptually salient, as confirmed by a long line of phonetic and psycholinguistic research (cf. Beckman 1997 and references therein). Final nuclei in Winnebago are frequently stressed: stress falls on the final mora in bimoraic, trimoraic, and some quadrimoraic (2) words. Thus, statistically, final nuclei are stressed, and thus perceptually prominent. Drawing on these generalisation, it is proposed that word-initial and word-final environments activate specific positional markedness constraints against rising sonority clusters.

The current analysis employs the framework of Stratal OT (Kiparsky 2000). At stem level (the first pass through the grammar), a high ranked positional constraint, *CR__/nucleus$_{\text{initial/final}}$ (=no rising sonority clusters preceding initial/final nuclei) licenses the application of DL in the specified positions. DL is not active elsewhere at this point, due to the domination of more general *CR__/nucleus by Dep-V. At word level (second pass through the grammar), DL applies globally, due to the re-ranking of Dep-V over *CR__/nucleus. Stress is assigned at the stem level and it is preserved at the word level thanks to the high-ranked faithfulness constraint Ident(Stress)(=preserve the underlyingly present stress) (4).

Existing (parallel) OT analyses of Winnebago (Alderete 1995, Broselow 2001) invariably require some representational stipulations (such as Broselow's mismatch between the head syllable and the stressed syllable), which is entirely avoided by the present analysis. Compared to other rule-based approaches to Winnebago which draw on foot structure (Hale and White Eagle (1980), Halle and Vergnaud (1987)), the present proposal is a major empirical improvement, correctly predicting the full array of stress patterns found in DL words. Thus, while rule-sandwiching effects still await a better theoretical approach, stress in Dorsey's Law is empirically best analysed as sensitive to positional well-formedness of word edges, rather than to general well-formedness of feet and higher-order prosodic constituents.

(1) Canonical stress in DL words (Miner 1980):

a.	b.	c.	d.	e.	f.
[ša̲wažók]	[ša̲wazókjį]	[hipe̲rés]	[hǫjisą̲ną]	[mąąšá̲rač]	[ke̲repą̲ną]

(2) Disrupted stress in DL words (Miner 1980):

a.	b.
hošawazá	wakiripáras

(3) Rule-sandwiching in Winnebago:

Input	/šwazokjį/	/hošwaza/	/wakripras/
DL1	šawazokjį	—	wakriparas
Stress	šawazókjį	hošwazá	wakripáras
DL2	—	hošawazá	wakiripáras
Surface	[šawazókjį]	[hošawazá]	[wakiripáras]

(4) Stratal OT account of stress in Dorsey's Law words.

a. Stem level:

	wakripras	Stress[$\mu\mu\acute{\mu}$	*CR__/nucl$_{\text{final}}$	Dep-V	*CR__/nucl
☞	wakripáras			*	*
	wakiríparas			**!	
	wakirípras		*!	*	*
	wakriprás		*!		**

b. Word level:

	wakripáras	Ident(Stress)	*CR__/nucl$_{\text{final}}$	*CR__/nucl	Dep-V	Stress[$\mu\mu\acute{\mu}$
☞	wakiripáras				*	*
	wakiríparas	*!			*	
	wakripáras			*!		

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