

Morphologically triggered default-to-opposite stress in Nez Perce

This paper addresses the interaction of morphology with primary stress assignment in Nez Perce (Aoki, 1970; Crook, 1999), with particular attention to the *default-to-opposite* stress seen in accented verbs: primary stress in Nez Perce is rightmost by default, but surfaces on the *leftmost* in a series of lexically accented verbal prefixes, even when the verb root itself is accented. This morphologically triggered default-to-opposite system is typologically interesting, and is argued here to result from conflict between default rightward alignment with a preference to place primary stress on the morphemes furthest towards the edge of the word from the root.

Nez Perce stress is sensitive to the presence of lexically specified accents. In the absence of underlying accents, primary stress is penultimate (NONFINALITY \gg ALIGN(stress, R)), as illustrated in (1).

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|-----|----|---------|------------|----|---------------|----------------|
| (1) | a. | pískis | pìskísne | b. | hàníisa | hànisáaqa |
| | | √pískis | √pískis-ne | | √hanii-see | √hanii-seeqa |
| | | ‘door’ | ‘door-OBJ’ | | ‘I am making’ | ‘I was making’ |

When a word has only one underlying accent, primary stress will surface on the accented syllable, even when that syllable is final (MAX(accent) \gg NONFINALITY), as shown in (2). When a word has multiple underlying accented syllables, however, NON-FINALITY and ALIGN-R(stress) are able to re-assert themselves, and primary stress surfaces on the rightmost non-final accented syllable, as in (3):

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|-----|----|-------------|----|---------|----|--------------|----|-------------------------|
| (2) | a. | híisèmtùks | b. | ’iníit | c. | hipú’ | d. | hik’lílcaqa |
| | | √híisemtùks | | √’iníit | | √hip-ú’ | | hii-√k’líl-cee-qa |
| | | ‘sun’ | | ‘house’ | | eat-IRR | | 3-be.unable.pass-REC |
| | | | | | | ‘I will eat’ | | ‘He was unable to pass’ |
- | | | | | |
|-----|----|------------------|----|------------------------------|
| (3) | a. | sèpíinèwiyù’ | b. | pàynóosàqa |
| | | √sepíinewi-ú’ | | √páay-núu-saaqa |
| | | meaure-IRR | | arrive-toward-REC |
| | | ‘I will measure’ | | ‘I recently arrived towards’ |

In the default-to-opposite case of verbs, when one or more accented prefixes are present, primary stress will always be on the *leftmost* accent (not necessarily the leftmost syllable), in apparent violation of ALIGN-R(stress) (4a-c). This iterative leftwards attraction is disrupted, however, in the presence of an accented suffix, as in (4d); note that the derivational suffix that receives stress in (4d) is arguably *within* the morphological scope of the accented inflectional leftmost prefix.

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|-----|----|---------------------|----|-----------------------------------|
| (4) | a. | siléewcùkwèce | b. | néesepèslèwcùkwèce |
| | | sléew-√cúukwe-cee | | nées-sepée-sléew-√cúukwe-cee |
| | | by.seeing-know-INC | | PLOB-CAUS-by.seeing-know-INC |
| | | ‘I know by seeing.’ | | ‘I make you (PL) know by seeing.’ |
- | | | | | |
|--|----|------------------------|----|-------------------------------|
| | c. | hìnéeswèyikse | d. | hìnèswèyikúuse |
| | | hii-nées-√wéeyik-see | | hii-nées-√wéeyik-úu-see |
| | | 3-PLOB-cross-INC | | 3-PLOB-cross-toward-INC |
| | | ‘He is crossing them.’ | | ‘He is crossing toward them.’ |

Default-to-opposite stress systems have been central in the development of phonological

theories of stress (Hayes, 1985, 1995; Prince, 1983, among others). First described for Eastern Chermis by Kiparsky (1973) and for Selkup by Halle and Clements (1983); Idsardi (1992), default-to-opposite stress canonically involves reversal of stress alignment triggered by the presence of *heavy* syllables: thus in Selkup, stress is assigned to the rightmost heavy syllable, or to the leftmost (initial) syllable in the absence of any heavy syllables.

As a default-to-opposite system, the Nez Perce reversal of alignment is interesting for two reasons: first, it is sensitive to morphological type (prefixhood), not to prosodic position (stress can be attracted onto a leftmost accent that is non-initial). Second, it is abstract accent, rather than a surface property such as weight, that triggers the reversal of alignment. These properties prevent an analysis of the Nez Perce data in terms of in terms of recent analyses of default-to-opposite phenomena as the result of positional licensing (as in Zoll, 2002), or as an illusion resulting from intonational prominence (Gordon, 2000). There is no prosodic difference between the prefixes that trigger alignment reversal and the syllables that would otherwise receive main stress; Nez Perce default-to-opposite stress thus requires an account in which ALIGN-R(stress) is outranked by some constraint that prefers stress on a leftmost accented prefix rather than on the verb root in (4a-c), but which is satisfied by primary stress on an accented suffix in (4d).

This paper employs a constraint STRESS-OUTERMOST(accent) for this purpose. This constraint requires that in a string of accented morphemes on one side or the other of the root, stress must fall on the morpheme furthest from the root. It assigns a violation otherwise. The result of this is that the notion of 'outermost' visible to phonology *linear* rather than structural, and is unable to evaluate relative 'outer-ness' between prefixes and suffixes.

What this buys in terms of the analysis of Nez Perce is an explanation for the problematic case of (4d), which shows that leftmost accented prefixes attract stress *only in the absence of eligible accented suffixes*. If STRESS-OUTERMOST(accent) outranks ALIGN-R(stress), then placing primary stress on the root will be non-optimal, even if the root carries the rightmost lexical accent; stress will be pushed leftwards onto an outermost prefix. When an accented *suffix* is present, however, it can satisfy ALIGN-R(stress) as well as STRESS-OUTERMOST; no matter how many prefixes are present, they are not relevant for the evaluation of STRESS-OUTERMOST(accent) with respect to a suffix. The tableau in (5) illustrates this crucial ranking for the case of (4d), and its evaluation of the relevant candidates:

(5)

hii-nées-√wéeyik-úu-see	STRESS-OUTERMOST	ALIGN-R(stress)
a. $\text{h}^{\text{h}}\text{h}^{\text{h}}\text{n}^{\text{h}}\text{é}\text{s}\text{w}^{\text{h}}\text{é}\text{y}\text{i}\text{k}^{\text{h}}\text{ú}\text{u}\text{s}\text{e}$		
b. $\text{h}^{\text{h}}\text{é}\text{s}\text{w}^{\text{h}}\text{é}\text{y}\text{i}\text{k}^{\text{h}}\text{ú}\text{u}\text{s}\text{e}$		**
c. $\text{h}^{\text{h}}\text{é}\text{s}\text{w}^{\text{h}}\text{é}\text{y}\text{i}\text{k}^{\text{h}}\text{ú}\text{u}\text{s}\text{e}$	*	*

All three candidates satisfy MAX(accent), not included in the tableau here. The candidate in (c) violates STRESS-OUTERMOST by placing stress on the root. Candidate (b) satisfies STRESS-OUTERMOST at the cost of extreme violation of ALIGN-R; in the absence of an accented suffix this would be the winning candidate. The winning candidate (a) satisfies STRESS-OUTERMOST as well as candidate (b) does — both have only unaccented affixes outside them — and also has the no violations of ALIGN-R(stress).

This approach to the issues of Nez Perce stress improves on the prior account developed by Crook (1999), which formalized the default-to-opposite pattern using a constraint banning primary stress from the stem; the iterative leftwards attraction of stress in that system, however, required constraint re-rankings triggered by the presence of accented prefixes, together with a system of *partial* bracket erasure necessary to capture the fact that accented suffixes disrupted leftwards attraction.

Regarding the morphological conditioning of this phenomenon, it is of interest to note that nouns in Nez Perce do not show default-to-opposite effects, and instead show a very different pattern: in the absence of any underlying accent, primary stress cannot move past the right edge of a nominal root, which forces non-penultimate stress with a certain set of prepositional suffixes.

- (6) a. pískis b. pískísne c. pískískin'ix (*pískiskín'ix)
 √pískis √pískis-ne √pískis-kin'ix
 'door' 'door-OBJ' 'from door'

The difference between nominal and verbal behaviour in Nez Perce raises the question of how phonological processes can be made specific to individual morphological categories. I propose that the retention of stress by nominal roots is best understood as a transderivational realization of the noun-specific faithfulness phenomenon described by Smith (1997). This is an alternative to lexical constraint indexation, as developed recently by Pater (2002, 2006), or to category-specific constraint re-ranking, previously applied by Crook (1999) to Nez Perce and developed for other phenomena by Anttila (2002) and Inkelas and Zoll (2005).

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