Forest Nenets vowel alternations and licensing of final nuclei

Background

In Strict CV phonology (Kaye et al. 1990, Scheer 2004), where representations consist of a syllabic and a melodic tier, and Element theory (Kaye et al. 1985), which supposes that phonological features are privative rather than binary, qualitative vowel alternations have been successfully analyzed in terms of underlying vowel quantity (Enguehard 2014, Enguehard 2018). This kind of analysis is especially germane to stress-related alternations, since stress has been argued to be represented by syllabic space in Strict CV, which links it to length (Larsen 1998, Scheer & Szigetvári 2005). When stressed vowels are phonologically long, they can carry more elements and therefore exhibit more contrast than unstressed short vowels, in which the contrasts are neutralized. We present the case of vowel alternation from Forest Nenets (<Samoyedic<Uralic), where a length-based analysis kills several birds with one stone.

Data

The data comes from the authors' fieldwork. Forest Nenets (FN) vowel inventory is different in stressed (1) and unstressed syllables (2).

(1) Stressed syllables

ĭ i		ŭ u	
ĕ e		ŏ o	
ӕ æ	ă a		

(2) Unstressed syllables

i	u
	°
æ	a

In FN, there is an alternation between high and mid vowels. In unstressed positions, /o e/ are reduced to /u i/ (3).

(3) *wed'ă^{h}kŭ* 'dog' – *wed'ă^{h}koj°* 'dog.POSS.1SG'

/ŏ/ and /ĕ/ only occur in monosyllabic forms, where they are in free variation with their high counterparts, /ŭ/ and /ĭ/ respectively. In polysyllabic contexts, however, the mid allophones appear (4–7).

(4) *tŏ-ʔ* [tŏʔ~tŭʔ] 'lake-NOM.PL'
(5) *to-n°* [ton] 'lake-DAT.SG'
(6) *n'e* [n'ĕ~n'ĭ] 'woman'
(7) *n'e-j°* [n'ej] 'woman-POSS.1SG'

There is also a closed class of words which are invariably high in monosyllabic forms and mid in polysyllabic ones. There are exactly three nominal stems that exhibit such an alternation, as mentioned by Salminen (1997) for Tundra Nenets: *ti* 'reindeer', *λi* 'bone' and *mi* 'thing, foodstuff'

(8) *ti-x°na* [texena] 'reindeer-LOC.SG'

(9) *λi-j°* [λej] ‘bone-POSS.1SG’
(10) *mi-λ°* [meλ] ‘thing-POSS.2SG’

The quality alternation in monosyllables is likely connected to the shortening of the vowel in monosyllabic words, first described by Salminen (2007). The vowel in such contexts surfaces as short regardless of the quantity of the underlying phoneme (8–9).

(11) *wiŋ* [wĭŋ] ‘tundra’
(12) *wiŋ-kat°* [wiŋkat] ‘tundra-ABL.SG’

Questions
First, why are monosyllabic words the only context where short mid vowels are found? Next, there are two classes of monosyllabics: one patterns with stressed syllables wrt. the vowel alternation and the other – with the unstressed. What prevents the effects of stress from showing in the second class?

Analysis
We assume that stress in FN is represented by length. Stressed vowels are bipositional and able to host two elements, which can be interpreted as a mid vowel: /o/ corresponds to the combination of |A| and |U| and /e/ – to |A| and |I|. The stress adds space for the extra element that is responsible for the mid quality (|A|), which is deleted in the absence of stress. Since long /a u i/ are represented by |A A|, |U U| and |I I| respectively, the quality alternation does not affect them and they are merely shortened when unstressed.

We also suggest that both monosyllabic shortening and the ban on final stress is due to V-slots having to be licensed by a filled V on their right to become targets of spreading (Lowenstamm 1996), and final V-slots in FN are not licensed and cannot license themselves. Essentially, there can be no length or stress in the final syllable.

Since stress and length share an exponent – an extra syllabic unit – both stress and length fail to be licensed word-finally, in monosyllabic words as well. The monosyllabic word is the only context targeted by stress *and* word-final lack of licensing: while final syllables in polysyllabics can remain unstressed, the only syllable of monosyllabic words has to be stressed. Therefore, only monosyllabics can have a vowel that is both mid as an effect of stress and short as an effect of word-finality.

In the other class of monosyllabics, where the alternating vowel is high in the bare form, the conflict between stress and word-finality is resolved in favor of word-finality: the vowel is short and not mid. We assume that vowels in this class of words contain an element that can only associate to a licensed position, that is, in a polysyllabic context.

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