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# Aspects of North Swedish intonational phonology

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The present contribution discusses features of North Swedish intonational phonology. One characteristic feature is final element stress in compounds occurring particularly in dialects of North Botnia. The idea proposed here is that the accentual pattern (HL) of a compound has a different alignment in these dialects compared to East Standard Swedish. Another characteristic feature is related to a specific pattern of phrase intonation. This phrasal pattern, also represented as HL, has a distinct difference in timing as well compared to East Swedish. It seems to have a wider geographical distribution among North Swedish dialects than final element stress.

## 1. Introduction

A traditional classification of Swedish dialects according to general linguistic criteria recognizes six groups (or types) of dialects: South (sydsvenska mål), West (götamål), East (sveamål), North (norrländska mål), Far East (östsvenska mål) and Gotland Swedish (gotländska mål) (cf. Wessén, 1969). It is striking that basically the same dialect groups are also identified when using exclusively prosodic criteria as in the accent typology by Gårding (1977) and in the prosodic typology by Bruce and Gårding (1978). There are, however, two apparent deviations from this correspondence between the general and the prosodic classification. The first one is that the East Swedish dialects have a subcategory – dialects of Dalarna and the Mining district – which is prosodically distinct from the rest of the East Swedish dialects. There is also a clear similarity between this prosodic subtype and the Gotland type. The other deviation is that East Swedish and North Swedish are not distinguished in the prosodic typology but are treated as belonging to the same prosodic dialect type. There is strong reason to believe, however, that the treatment of East and North Swedish as one and the same prosodic dialect type is an incompleteness of our typology. We should remember that the accent typology devised by Gårding is based on Meyer's classical data containing pitch contours of citation forms of disyllabic accent I and accent II words. Our suspicion is that a one word utterance of this kind will display the prosodically unifying features of the two dialect groups but is not sufficiently varied for revealing potential differences. In the present paper we will attempt to show in what way North Swedish intonation can be distinct from East Swedish intonation.

## 2. Prominence structure of compounds

In our phonological representation of the prominence structure of Swedish words, a fundamental distinction is made between rhythmical and intonational prominence. The main ingredient of rhythmical prominence is *stress* (stressed / unstressed syllables), and the basic

level of intonational prominence is *accent*. Stress has got multiple phonetic correlates, including duration, intensity, and sound spectrum, while the phonetic correlate of accent is primarily tonal. The regular rhythmical structure of Swedish compounds is that compound words contain two relevant stresses, one stress in the initial element and another stress in the final element. In Standard Swedish the initial stress of a compound is labeled primary (or main) stress, and the final stress is called secondary stress. In our representation this is by virtue of the accentual structure, so that the initial stress is assigned a pitch accent, typically accent II (H\*L), while the final stress does not have a pitch accent. Thus the combination of stress and accent in the initial element is denoted primary stress, while mere stress (without accent) in the final element is denoted secondary stress. In a phrase or utterance context an additional level of intonational prominence, focal accent may be assigned to the compound word. It will be aligned with the secondary stress of the compound, but that is not part of the prominence structure at word level.

### 2.1. Final element stress

Final element stress is the label for the reverse prominence pattern of a compound. Thus primary stress is attributed to the final element of the compound, while the initial element is characterized by secondary stress or sometimes even no stress. Interestingly, while initial element stress is characterized by accent II (H\*L), final element stress is assigned accent I (HL\*). Final element stress is typically acknowledged as being characteristic of North Swedish dialects. It should be pointed out, however, that this feature does not occur in most North Swedish dialects, but only in subgroups such as in dialects of North Botnia (norrbottniska). There is, however, a restriction on the prominence structure of a compound that will be attributed final element stress. The two stresses of the initial and final elements of the compound must not be adjacent (no stress clash). Compounds where stress clash (between the two stresses) occurs will never be assigned final element stress, but will instead occur with the regular stress pattern of a compound, initial element stress. See Bruce (1982) for a more complete account of the phonology and distribution of final element stress in North Swedish. Figure 1 exemplifies these two types of compound.

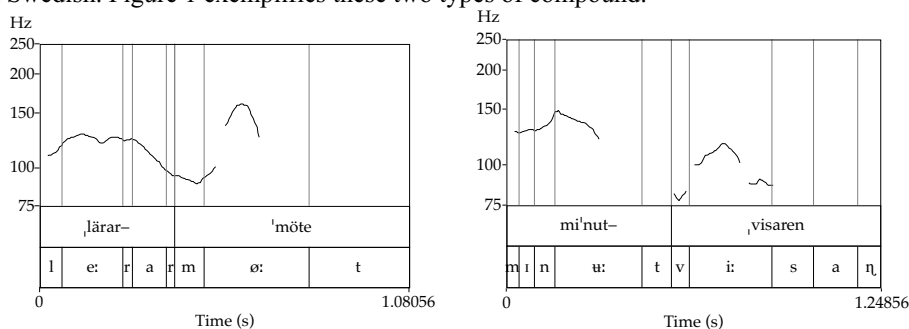


Figure 1. Prominence structure of compounds in North Swedish. Final element stress (to the left) and Initial element stress (to the right). Examples from the SweDia 2000 spontaneous data base as produced by an elderly male speaker from Kalix (in North Botnia).

There is reason to believe that the accentual pattern may play a decisive role in the account of the prominence structure of the compound. We have assumed in earlier accounts that the accentual structure of a compound in East Standard Swedish can be represented as H\*L...L\*(H), i.e. the regular compound pattern with accent II (H\*L) assigned to the initial

stress and no distinctive pitch accent (L\*) to the final stress. In Standard Swedish the H\* has a specific alignment with the beginning of the stressed vowel, while the following L is to some extent contextually sensitive but does not occur later than the post-stress syllable. For North Swedish we may assume that the same basic HL gesture applies to compound words. The L does not seem to have a specific alignment with the post-stress syllable, though, but is left to float and may be collapsed with the following L\*. The regularity seems to be that the L should be reached late but before the next stress of the compound. We will then have a pitch pattern, which is consistent with that of a compound with final element stress. Thus the rhythmical structure may be the same for initial element stress and final element stress, i.e. with two stresses, one in the beginning and one at the end, while it is the accentual structure that varies. A decided H\*L pitch accent with a specific early alignment of the L will determine accent II for the initial element, while a H where the following L is aligned late before the final element will result in accent I (HL\*) attributed to the final stress, i.e. no accent II to the initial stress.

This may also explain why a stress clash situation will not end up as final element stress. The accentual fall (HL) will have to start in the first stressed syllable, when the L has to be reached before the following (also stressed) syllable. When there is at least one unstressed syllable between the two stresses, the accentual fall (HL) can start later and will not give the impression of accent II assigned to the first stress but instead accent I to the final stress.

For the illustration of the varying intonational structure of compounds I will make a distinction between stress clash and stress gap (Figure 2). The critical factor here is the rhythmical structure, specifically the distance between the two stresses of a compound. While in a stress clash like in *hund-käx* (— —) the two stresses occur in immediate succession, in a stress gap a number of unstressed syllables often tend to separate the stresses like in *midsommar-blomster* (— U U — U).

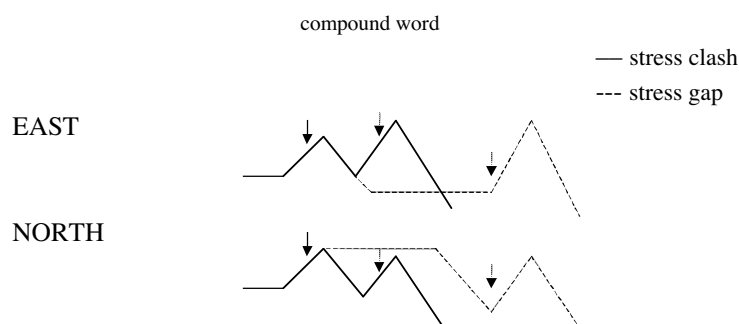


Figure 2. Schematic pitch patterns of compounds with stress clash and stress gap in focal, phrase-final position for two dialect types (East and North). The first arrow marks the CV-boundary of the initial stress, and the second/third arrow the final stress of the word.

### 3. Patterns of phrase intonation

Another potentially characteristic feature of North Swedish intonation seems to occur in a particular phrasal context. This specific pattern of phrase intonation is most audible and visible in a phrase with a number of unstressed syllables between two accented words, where the second word has got accent I. The intonational phonological structure of this pattern can be described as HL. There is thus a clear similarity with the representation of an accent I in

East Swedish HL\* (see e.g. Bruce, 1977). But while in East Swedish the H typically occurs late in the pre-stress syllable followed by a downstepping to the L\* in the stressed syllable, the timing of the corresponding HL gesture in North Swedish is characterized by a distinct difference in timing. The H of this gesture seems to culminate two syllables before the stressed syllable (having accent I), while the following L occurs in the pre-stress syllable (Figure 3). This means that the L is reached distinctly earlier in North Swedish than in East Swedish for this kind of construction.

There is an apparent similarity between this phrase intonation pattern and the corresponding pattern of final element stress. It is clear that final element stress presents a tonal pattern that is not exclusively characteristic of compound words but is a pattern also typical of lexicalized phrases and phrases more generally. This specific pattern of phrase intonation seems to have a wider geographical distribution among North Swedish dialects than final element stress in compound words. Apparently it occurs not only in North Botnia but also in dialects much further south. Its more specific geographical distribution as well as its structural, contextual description remains to be examined.

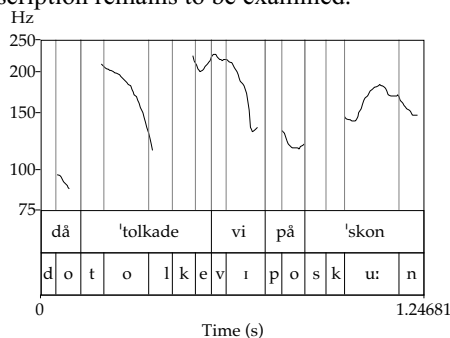


Figure 3. Patterns of phrase intonation in North Swedish. Example from the SweDia 2000 data base as produced by an elderly male speaker of Arjeplog (Lapland).

#### 4. Acknowledgments

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