

PATTERNS OF PROMINENCE IN L2: OBSERVATIONS FROM LEARNERS OF SWEDISH WITH L1S OF DIVERSE PROMINENCE PROPERTIES

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ABSTRACT

Swedish has – like other Germanic languages – flexible stress placement, which underlies morphological rules and is also based on the individual word's origin. The achievement of the correct usage when learning Swedish is challenging. As second language learners of Swedish in the classrooms present speakers of a variety of first languages (L1s), the opportunity has been taken to have a closer look on how stress in L2 is handled. For that reason, learners with Somali, Albanian, Vietnamese and Farsi as their first language were recorded when speaking L2-Swedish. These languages exemplify a variety of systems in regard to the usage of stress. The recorded speech was analysed and the observed way of administering stress in L2 was compared to the organisation of stress in L1.

Keywords: Foreign accent, L2-prosody, stress systems, stress placement, prominence

1. INTRODUCTION

In languages with contrast in prominence it is important for the recognition of a word to place the stress on the correct syllable – or in some languages the correct mora. The stressed syllable serves as a perceptual anchor and facilitates access to the mental lexical entry of the word in question. The sound structure, based on the production by the speaker, varies between the stressed and unstressed syllables in that larger articulatory features are represented in the stressed one. In that sense, stressed syllables are usually produced with a stronger pulmonary airstream, resulting in a relatively higher volume of the produced sounds. They are longer in duration and some tonal property occurs with them, such as salient tone height or contours. In addition, articulation of the segmental inventory is typically more precise in stressed syllable, in that the articulators reach closer to the target than in unstressed syllables, where articulatory undershoot easily occurs. Unstressed syllables are rather neutral, where articulatory effort is reduced, which can even lead to elision of individual segments or

the whole syllable. Tonal excursions are minimal and length is also rather diminished in unstressed syllables. The degree of variation of those features and how exactly contrast in stress is manifested is determined by each individual language. Furthermore, the degree of prominence of several syllables in an utterance is not just twofold, but can manifest itself on various levels, in that primary, secondary or tertiary levels of stress may occur. Syllables being perceived as very salient in an utterance are usually a result of more than one factor, where e.g. the focus of a word may be realized by making the lexically stressed syllable even stronger.

As the general presence and the placement of lexical stress in a word, its role to convey focus and the specific materialisation of the diverse features varies between languages, the correct use also has to be acquired in second language learning.

In the following, an analysis will be presented on how second language learners with different first languages administer the prosodic property of prominence in Swedish. The major issue is hereby limited to lexical stress, as the recorded material is not designed to bring about any data that would shed light on matters of information structure.

1.1. Prominence in Swedish

The distribution of the stressed syllable in a word is based on several factors in Swedish [1]. First of all, we have to make a distinction between simplex and compound words. Simplex words carry stress on one of the last three syllables in a word's stem. This means that stress placement is flexible, but nevertheless dependent on certain morphological and/or historical characteristics of the word. There is also a correspondence between stress placement and quantity features in Swedish in that a stressed syllable is heavier than an unstressed one. Stress placement is also related to syllable structure in that if e.g. a final syllable in a word without further morphological affixes concludes with a consonant, it is likely to be stressed as in *fa'brik* 'factory', and *universi'tet* 'university'. If it concludes with a vowel it is likely that penultima or antepenultima carry the stress: *'paprika* 'red peppers' and *'fyra* 'four'. There

are certain exceptions and extensions to these general rules, mainly related to the origin of the word in question.

Compound words carry a primary and a secondary stress. The primary stress occurs on the same syllable of the lexical component that introduces the compound, if that component would be a simplex word. Secondary stress occurs on the final lexical component in the compound, on the same syllable as stress is found in the corresponding simplex. In multiple element compound words, all underlying lexical stress gets neutralized. The compound *'varmvattenbe,redare* 'water heater' consists of three simplex words: *'varm* plus *'vatten* plus *be,redare*. If such a compound consists of many elements and therefore many syllables, structural or rhythmical stresses may occur, which are rather related to phrasal characteristics of Swedish speech.

As has been pointed out above, stress in Swedish is related to quantity properties, but there is also a tonal aspect connected to it. The highest level of prominence on a lexical level, which results in that primary stress is marked by higher intensity and a longer syllable or vowel, compared to an unstressed syllable of corresponding phonotactic structure. In addition, a syllable with primary stress carries a tonal accent. This is the case for simplex and compound words. In the components of a compound carrying secondary stress, the tonal accent from the same element as a simplex gets neutralized.

There are also prominence properties based on information structure and rhythmic organization of the speech flow, but though these properties are important for the analysis of interaction, they will not be addressed in this study.

As stress is not placed in a regular way in Swedish, the acquisition of it when learning Swedish as a second language, requires almost knowledge of the individual morphemes meaning and the relationship between the meaning of the individual morphemes in a word, e.g. in morphologically complex words. Only similarity in phonological structure – as pretended by orthography – is not enough to predict stress placement. For example:

- *fördel* /'fø:r,de:l/ 'advantage' vs. *fördelning* /før'de:lnɪŋ/ 'distribution'; but: *avdelning* /'a:v,de:lnɪŋ/ 'section'

Here, despite the similarity of the first element in the first two words, the main stress falls on different syllables. Also for the two last words a similarity occurs in the phonotactic structure in the final part, which nevertheless concurs with primary stress placement on different syllables. The placement of the primary stress is depending on the variation in meaning of the orthographically similar parts of the

words. The initial sequence *för-* in the first two examples carry diverse meaning, and the same is true for the final sequence *-delning* in the last two examples.

- *förtryckt* /'fø:r,trykt/ 'preprint' vs. *förtryckt* /fø'r'trykt/ 'suppressed'.

In these examples, the difference in stress placement is based on the fact that the first word is a compound, whereas the second word is introduced by a prefix, which does not carry stress.

2. THE INVESTIGATED MATERIAL

The material analysed for the present study is part of a larger project, aiming for the description of foreign accent features of learners of Swedish with L1s that are currently found in those classrooms, where Swedish is taught to immigrants. Current and future teachers of Swedish in these classrooms are the target group of readers of these foreign accent descriptions.

Recordings used for the present study, contained speech of L2-Swedish produced by two L1-speakers of Somali, Albanian, Vietnamese and Iranian Persian (henceforth Farsi), living in the southern part of Sweden. The informants were reading some Swedish sentences and a short text, and describing a picture story. The sentences were compiled in that words containing all Swedish vowels and consonants and most of the Swedish consonant clusters were present in the material. Furthermore minimal words pairs contrasted by quantity characteristics, stress placement and word accents were built into the sentences. Many of these target words were also present in the short text and supplemented by further words, e.g. compound words. The recorded material was analysed in an impressionistic way: when listening to the material, examples of non-L1 accented speech was extracted and transcribed. In many cases the phonetic features on which the foreign accent impression was based could already be pointed out by auditory observation only. Speech wave and spectrogram representations were used to get a closer look and a more detailed auditory impression.

All speakers have a good enough command of Swedish to manage every day conversations. Most of them are enrolled in a Swedish high school, which leads to a university entrance qualification. The others are already engaged in university education or are involved in education as teachers, using Swedish when giving lessons.

3. PROMINENCE PROPERTIES OF THE L1S AND PROMINENCE REALISATIONS IN L2

In this section, prominence properties of the various L1s of the informants who contributed to the material investigated are presented. Hereby, lexical stress has been the point of concern and further attention has not been paid on prominence properties occurring in larger stretches of speech. In addition the observed realisation of prominence in L2-Swedish in relationship to the informants L1 is given here.

3.1. Somali

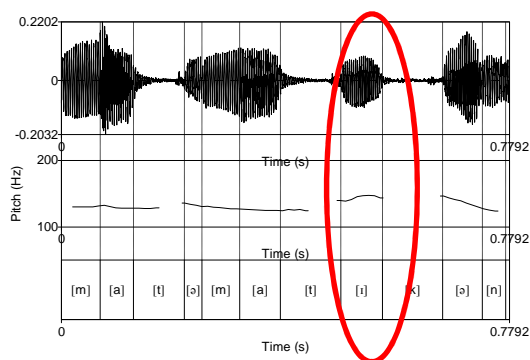
Somali is known to be a tone accent language [3] although it has been classified as a tone language in earlier descriptions of the language. Tone assignment, however is also associated with prominence [11]. In each noun exactly one high tone occurs on one of the last two vocalic morae, which depicts the highest level of stress. Other vocalic morae in a noun are produced without an accent, i.e. with a lower pitch and reveal a lesser level of prominence. Difference in placement of the tone accent – and hence the higher degree of prominence – can be distinctive and signal difference in gender or plurality, e.g. *ínan* ‘boy, son’ vs. *inán* ‘girl, daughter’ or *éi* ‘dog’ sing. vs *eí* ‘dogs’ pl.

The L1-speakers of Somali recorded for this study produced very monotonous speech when speaking L2-Swedish, monotonous in melody and rhythm. Hereby, the word *sta'tionen* ‘the station’ receives similar weight on all three syllables, which results in **'sta'tio'nen*. In the case of the word *matema'tiken* ‘mathematics’, the stressed syllable is very reduced in length and quality, but receives a clear tonal alteration towards a higher F0 (Fig. 1). There is however an observable tendency that in case that the main stress belongs on the first syllable, that syllable is correctly produced with a stronger emphasis than the succeeding syllables in both, simplex words and compounds. This stronger emphasis is conveyed by longer syllable duration plus higher F0 compared to the measures of the following syllables.

Another factor which makes it difficult to spot a stressed syllable in Somali-accented speech is vowel epenthesis. In the case of initial consonant clusters, an extra vowel similarly to [ɛ] is repeatedly interjected, which is not necessarily reduced. Epenthesis splits the syllable into two units, which alters the rhythmic flow. In the case of a stressed syllable, its apprehension to be stressed is obscured, if epenthesis is carried out without a clearly reduced vowel, in that two syllabic units of similar weight

carry consonantal elements originating from one syllable.

Figure 1: The supposedly stressed vowel /i/ is reduced in length and quality: [ɪ], and prominence is only signalled by raised F0 when produced by L1-speakers of Somali.



3.2. Albanian

According to some descriptions of the Albanian phonology, stress is variable in placement and distinctive [2]. A minimal pair that exemplifies such distinctiveness consists of the words *'bari* ‘the grass’ and *ba'ri* ‘(shep-)herds’. In another source [6], however it has been pointed out that stress is mainly fixed, and the rhythm is trochaic, which leads to stress on the penultimate syllable in most words.

Stress is placed many times on the penultimate syllable in the L2-Swedish speech by both L1-speakers of Albanian – which is a regular place for stress in Albanian. This is the case for compounds and simplex words. However, stress placement on other syllables also occurs. Examples where the stress is misplaced on the penultima syllable are the words: *'läraren* ‘the teacher’, *'arbetar* ‘works’ and *'grön,saker* ‘vegetable’, which become **lä'raren* **ar'betar* and **grön'saker*.

In other cases, the contrast between a stressed and an unstressed syllable is not as clear and explicit as one would expect for Swedish. This is based on an alteration of length distinction in the rhyme, where the two Albanian L1-speakers seem to produce similar rhyme length for what in Swedish would be stressed and unstressed syllables.

3.3. Vietnamese

Most words in Vietnamese are composed of one syllable only, which makes the possibility of any variation in prominence within a word insignificant. Thus no stress – neither distinctive nor structural – is present in Vietnamese. The salient prosodic feature in this language is based on the elaborate tone system (5-6 tones), where one tone – not only based on variation in pitch but also on variation in voice

quality and length – occurs on the vowels of the lexical unit [9].

There are, however, compounds in Vietnamese, and studies have shown, that one of the syllables in a compound is observed to be more prominent, based on a stronger presence of features used to signal a stressed syllable in other languages, like English [4]. Similarly, other studies have revealed, that also in the case of reduplication – which is a productive process in Vietnamese and underlies certain conditions – the final element is acoustically more prominent [8]. The same authors have investigated how successful L2-learners of English with Vietnamese as their L1 were when addressing the concept of stressed vs. unstressed syllables [7]. Their results showed that these learners can make use of pitch features and intensity variation, but not variation in duration or vowel reduction to signal different levels of prominence in English.

It could be observed, that the L2-speakers of Swedish with Vietnamese as their L1 who contributed to this study have a remarkably good command over the placement of the stressed syllables. Errors only occurred in a minimal number of cases.

3.4. Farsi

Farsi is a language with stress-accent features, similar to German and English [5]. In a language with stress-accent features, one syllable is more prominent in a word than others. Stronger prominence of one syllable over others is conveyed by its longer duration or higher amplitude. Stress in Farsi falls mainly on the last syllable in the word stem or a sequence of two closely related words, or some suffixal syllable in a word, e.g. plural suffix [10]. In addition, Farsi has a very strong phrasal accent early in an utterance, which overrules lexical stress in prominence.

Both L1-speakers of Farsi placed stress many times on an inadequate syllable when producing L2-Swedish simplex words and compounds. In compound words, however, the main stress was placed where secondary stress is expected, i.e. stress in a compound was never placed on a syllable, where an unstressed syllable is required. Some examples are: *'söder,ut* 'towards the south', *'inne,hållet* 'content' and *'för,del* 'advantage' become **söder'ut*, **inne'hållet* och **för'del*. In simplex words, which occur with one stressed syllable only, mainly the second syllable receives the stress – which in most of the examples coincides with the penultimate syllable: *'foglarna* 'the birds' and *'arbetar* 'works' become **fo'glarna* and **ar'betar*. Although not being the major interest of

this study, it can be reported that the L2-speakers of Swedish with Farsi as their L1 more noticeably emphasize inappropriate syllables in phrases and prosodic words, like a verb followed by an enclitic pronoun, e.g. *'vila ,sig* 'to rest' becomes **,vila 'sig*.

4. DISCUSSION

Emphasising the wrong syllable of a word can lead to misunderstandings in communication, not only if there is a minimal word pair and therefore a contrast in meaning. The properties of (lexical) stress include several parameters, and observations from this study show, that stress is not simply a binary feature, which is either present or absent. The observations indicate, that sometimes the syllable expected to be stressed is not complete. Many L2-speakers investigated here do not clearly make a distinction between a stressed and an unstressed syllable, regardless the stress system in their L1. The lack of clarity of distinction could be based on diverse factors, but is largely related to the absence of length variation between the consecutive syllables. This occurs mainly for the L1-speakers of Somali and Albanian. In addition, vowels in the supposedly unstressed syllable were not sufficiently reduced.

In some cases, the Somali L1-speakers compensated for the lack of adequate length for a stressed syllable by producing a pitch excursion towards a higher tone in otherwise monotonous speech. This can be seen as a link to their L1, as a high tonal word accent also is an indicator to higher prominence in Somali.

L1-speakers of Albanian did also stress the penultimate syllable in simplex and compound words in many cases, where not anticipated in Swedish. This seems to be related to the rules of stress in their L1.

Speakers with Farsi as their L1, did not lack or reduce the distinction between stressed and unstressed syllables, but produced a clear difference in length and large pitch excursions for the stressed syllables. Placement of stress, however, was realised in many cases on inadequate syllables. Such inadequate stress placement did not coincide with the place where the stress usually is found in Farsi.

The least degree of fluctuation of stress placement occurred for the L1-speakers of Vietnamese. In agreement with [7], it seems that the recorded speakers could make use of their experience with tonal features from their L1 when producing stressed syllables in L2-Swedish, which also carry a tonal word accent.

In summary, the L2-speakers of varied first languages make use of some properties from their L1, when tackling stress placement in Swedish L2.

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