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## **DIFFERENT STRESS PATTERNS MEET: KURDISH L1 SPEAKERS LEARN SWEDISH**

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The Kurdish language is an Indo-European language spoken in different countries from a region in the Middle East. Many speakers of Kurdish have migrated to other countries, including Sweden, and it is a frequent L1 spoken in Sweden. More than 3000 students with Kurdish L1 were registered as adult learners of Swedish for immigrants in the year 2012 ([www.scb.se](http://www.scb.se)). For L2 learners it is important to be aware of differences in phonology and prosody between L1 and L2 to reduce problems in direct communication. In Swedish, a stressed syllable is perceived through intensity, pitch and duration. The stress placement can change depending on the morphology. In compounds, the main stress is on the first element and a secondary stress on the last element. In Kurdish, on the other hand, stress is not correlated with length variation and stress is usually on the last syllable. Compounds only have one stressed syllable on the last element. The investigation of Kurdish L1 speakers learning Swedish as an L2 indicates potential problems with stress placements, which causes problems in communication since the stressed syllable serves as a perceptual anchor for a native listener.

### **INTRODUCTION**

Kurdish is spoken by approximately 20,000,000 speakers in a region which is part of five different countries, namely Turkey, Iran, Iraq, Syria and Armenia. Kurdish is a minority language in these countries and is divided into different varieties with the two major dialects Sorani and Kurmanji (Hassanpour, 2012). The dialect Sorani is one of the official languages in Iraq (Hassanpour, 2012). The alphabet of the Sorani dialect, spoken mainly in the southern part of Kurdistan, is based on the Arabic alphabet, while the alphabet of the Kurmanji dialect, spoken mainly in the northern part, is based on the Latin alphabet (Hassanpour, 2012). Speakers of one dialect usually understand speakers of other Kurdish dialects. Kurdish belongs to the Iranian branch of the Indo-European language family and is related to dialects spoken in the surrounding areas.

When it comes to learners of Swedish as a second language in Sweden, Kurdish is among the ten most frequent L1s. Thus, it is of interest to know if there are specific problems for Kurdish speakers related to their native language. If so, that should be highlighted in the teaching situation for Kurdish L1-speakers. This study is part of a research project about how learners with different native languages acquire and learn the pronunciation in Swedish as a second language (e.g. Tronnier & Zetterholm, 2011). This is important since the phonology and the prosody of L1 often seem to have an impact on how easy or difficult it is to acquire an intelligible pronunciation in an L2 (e.g. Abrahamsson, 2009; Bannert, 2004; Munro, 2008).

## A comparison of stress patterns

### Stress patterns in Swedish

A distinctive prosodic feature of Swedish prosody is word stress, which can occur on any syllable depending on the morphology. According to Bruce (2012), there are two basic word stress patterns in Swedish. The *simple* stress pattern is characterized by one primary stress within any of the last three syllables in a word. The *complex* stress pattern is characterized by one primary stress early in the word and a secondary stress later in the word, usually on the last part. Examples from standard Swedish on the distribution of primary and secondary stress in compounds are: 'kaffe, bryggare (coffee machine) and mo' biltele fon (cell phone) and 'födelsedagska, las birthday party. Varieties of stress placement can be found in different regional dialects, especially in the northern part of Sweden. In Swedish there are some minimal pairs with distinctions in meanings depending on the stress, e.g., *formel* ['fɔrmɛl] (formula) – *formell* [fɔr'mɛl] (formal); *kaffe* ['kafə] (coffee) – *café* [ka'fe:] (café); *armen* ['armɛn] (the arm) – *armén* [ar'me:n] (the army).

The syllable structure of Swedish permits as many as three initial consonants and three final consonants in root morphemes together with one vowel (Garlén, 1988). One long single vowel can also occur as one syllable e.g., *i* [i:] (in), *ö* [ø:] (island), *å* [o:] (small river). In Swedish there is a distinction concerning duration in syllables (Bruce, 2012). There is a complementary quantity distinction in stressed syllables, expressed by variation of segmental length namely (C)V:(C) or (C)VC:(C). The stressed syllables are also produced with a slightly higher intensity and pitch compared to other syllables in the word or phrase. Variation in vowel quantity also brings along a difference in vowel quality (Bruce, 2012; Riad, 2013), e.g. *bus* [bʊ:s] (mischief) – *buss* [bʊs:] (bus); *hat* [ha:t] (hate) – *hatt* [hat:] (hat); *mål* [mo:l] (goal) – *moll* [mɔ:l:] (minor key); *stöta* [stø:ta] (bump) – *stötta* [støet:a] (support).

### Stress patterns in Kurdish

The syllable structure allows two initial consonants and three final consonants, (C)CV(C)(C)(C) in Kurdish. A syllable has at least one consonant and one vowel, but one single vowel cannot be in isolation (Rahimpour & Dovaise, 2011). In Kurdish, stress is not correlated with length or quality variation in the syllable, but loudness and pitch has a strong effect (Rahimpour & Dovaise, 2011). Stress in Kurdish is often predictable. Only one syllable is stressed in a multisyllabic word, whereas the others are unstressed. Mostly, the stress falls on the final syllable and in nominal compounds the stress is on the last element. However, for some words the stress can change depending on the morphology, and some morphemes take stress, e.g. 'hatin (they came) – ha 'tin (to come) (Rahimpour & Dovaise, 2011).

### The study

Only read speech is used in this study. The participants read prepared sentences which contained segments and important and contrastive prosodic features which are known to be difficult for L2-learners of Swedish (Bannert, 2004). For this study the focus was on sentences containing minimal pairs contrasted by quantity relations and word stress pattern as well as sentences with compound words or words with a derivational morpheme. In general mispronunciation of segmental phonemes is observed, but only those related to stress and quantity issues were examined in this study.

## Participants

Six L1 speakers of Kurdish participated in this study: two male and four female speakers with ages between 36-57 years old when recorded. They had lived in Sweden between 17-25 years, four of them longer than 20 years. Sorani Kurdish is their native language. Four speakers were from Iraq and one is from Iran. All participants worked as interpreters in Sweden and participated in a weekend course about Swedish prosody. They all agreed to participate in a research study. The recordings were done the first day of the course and were entered into a computer using the program Praat (<http://www.fon.hum.uva.nl/praat>) and headset equipment. Recordings of the same sentences produced by one Swedish male speaker of the standard variety were used for comparison.

## Analyses

The stress pattern in the participants' first language, Kurdish, has an impact on learning a second language with another stress pattern. Many of the minimal pairs with a quantitative contrast also seemed to be hard to manage. Four of the speakers pronounce the words with an incorrect vowel quantity in all occurrences. It works in both ways, a long vowel is pronounced as a short vowel in some words and a short vowel is pronounced as a long vowel in other words. The spelling, where double consonants of the same type signal that the preceding vowel is short, does not seem to signal the pronunciation to the speakers. It might be the case that the L2-speakers cannot make use of this hint, which is the major rule in Swedish.

In the read sentences the vowel quantity contrast was present in minimal pairs like *vägen* – *väggen* ['vɛ:gən – 'vɛg:ən] (the road – the wall), *granen* – *grannen* ['grɔ:nən – 'gran:ən] (the Christmas tree – the neighbor), *vila* – *villa* ['vi:la – 'vil:a] (rest – house), *busar* – *bussar* ['bu:sar – 'bɔsar] (hooligans – buses). The sentences were also constructed with a semantic clue, e.g., *Granen är vackrast med glitter* (the Christmas tree is beautiful with tinsel) and *Man ska vara vän med granen* (You should become friend with your neighbor). A measurement of the duration of the a-vowel and the following /n/ in the two words shows that there is hardly any difference between the words pronounced by the Kurdish speaker, but for the Swedish speaker there is a difference in both vowel and the following consonant duration in the two words, see Table 1. It is interesting that there is a great difference between the two phonemes in the word *granen* for the Swedish speaker, but almost the same duration in the word *grannen*. However, the quality of the a-vowel is different and probably made more sense for a native listener. This is also shown in the acoustic analysis from Praat, see Figure 1 (Swedish speaker) and 2 (Kurdish L1-speaker). This result conforms the auditory impression when listening to the recordings.

Table 1

*Duration in % of the two phonemes /a/ and /n/ for the Swedish and the Kurdish speaker in one of the minimal pairs.*

Key words	Phonemes	Swedish speaker	Kurdish speaker
<i>granen</i>	/a/	28%	25%
['grɔ:nən]	/n/	16%	18%
<i>grannen</i>	/a/	21%	24%
['gran:ən]			

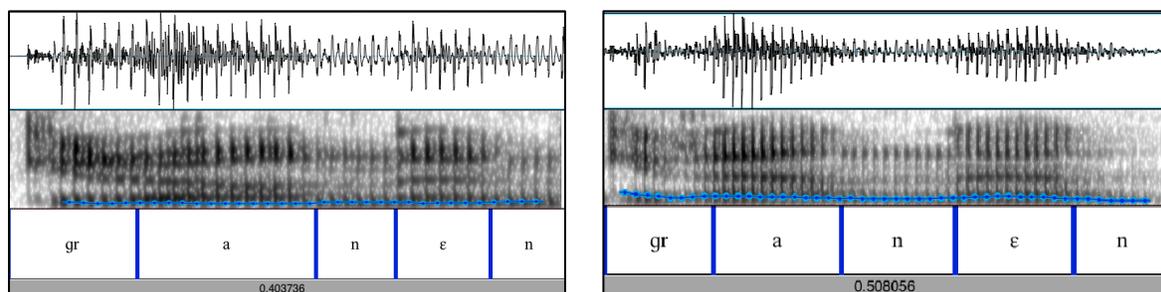


Fig. 1. A Swedish male speaker; *granen* [ˈgrɔːnɛn] to the left, *grannen* [ˈgranːɛn] to the right.

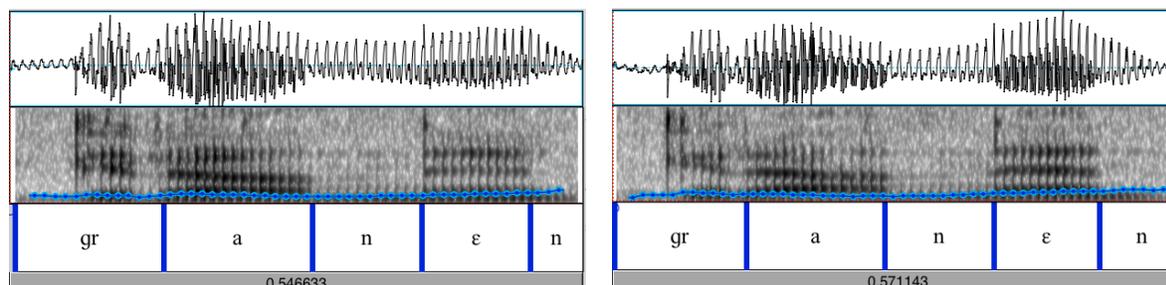


Fig. 2. A Kurdish L1 male speaker; *granen* [ˈgraːnɛn] to the left, *grannen* [ˈgranːɛn] to the right.

Three minimal pairs with a contrastive word stress pattern were analyzed in the read sentences. Only one of the minimal pairs was pronounced correctly by all speakers but at least three of the speakers did not change the vowel quality for the two a-vowels in the words spelled *banan* [ˈbɔːnan – baˈnɔːn] (the course – banana) even though they changed the vowel quantity. The same pattern concerning the pronunciation of the a-vowel is shown in the minimal pair *kallas* – *kalas* [ˈkalːas – kaˈlɔːs] (be called – party). It is always the vowel quality for the short a-vowel [a] that is pronounced. One explanation for that is that Kurdish only has this a-vowel quality, but as both a short and a long variety (Rahimpour & Dovaise, 2011). In general, the L2 speakers stressed the last syllable in Swedish, disregarding the variation of stress placement. This is probably a transfer from their first language.

The compound words and words with derivational morphemes seemed to be hard for the speakers, especially for two of those who always place the stress on the last element, like in Kurdish. They had both lived in Sweden for 25 years, but still had problems with the stress pattern for compound words. The other four speakers had a few misplacements each. In Table 2, four examples from the recordings are shown. For these words it was not the syllable duration that seemed difficult, only the stress pattern.

Table 2

*Derivation and compound words from the readings*

Target words	Translation	Swedish speaker	Kurdish speaker
avlyssna	listen to	[ˈvːːlysna]	[vːːˈlysna]
nymålad	recently painted	[ˈnyːːmoːːlad]	[nyːːˈmoːːlad]
telefonnummer	phone number	[tɛlɛːˈfoːːnɔmər]	[tɛlɛfoːˈnɔmər]
kaffebricka	coffee tray	[ˈkafɛːˈbrɪka]	[kafɛːˈbrɪka]

One of the female speakers who had lived in Sweden for 17 years was an exception in this analysis. She almost managed to make the prosodic distinction in the minimal pairs, both for vowel quantity and quality, for word stress patterns in isolated words as well as in derived

there was another prosodic feature, namely the Swedish word accent, that seemed to be hard for her. This was not the goal for this investigation but notable because the distinction between the two word accents is often hard for L2 learners of Swedish.

### **Implications for L2 learners and teachers**

Since prosodic features are very important and distinctive in Swedish, it is of importance that second language learners, and teachers have knowledge about them. Speaking with a wrong stress pattern can cause communication errors and problems in a dialogue. The relation between stress and quantity in the syllable structure is of importance, as well as the difference in vowel quality, depending on the quantity. The findings, when measuring the duration in the minimal pair *granen* – *grannen* (see Table 1 and Figure 1), for the Swedish speaker show the importance of the vowel quality as a clue for a native listener. There are rules for word stress patterns depending on the morphology that should be pointed out. Some derivation morphemes have to be stressed, others do not. Careful listening to Swedish words spoken by native speakers, explanation and guidelines for a correct stress pattern as well as transcription and recordings of the learner's own speech might be a successful pedagogical method to reach awareness of the differences in prosodic minimal pairs (Cauldwell, 2013).

### **CONCLUSIONS**

The prosodic patterns concerning syllable duration and stress placement are different in Swedish and Kurdish. In Swedish, there is a complementary length distinction in stressed syllables and they are produced with a slightly higher intensity and pitch compared to other syllables in the word or the phrase. The stress placement can change depending on the morphology, except for compound words with main stress on the first element and a secondary stress on the last element. In Kurdish on the other hand, stress is not correlated to length in the syllable and stress is usually on the last syllable or last element in a compound. The same stress pattern is found in this study for L2-Swedish. The results indicate that the Swedish stress pattern is confusing for some of the speakers and they place stress at the end of words, as they do in their L1. In some cases the misplacement of stress changes the meaning of the word in question. In those cases where misplacement does not change the meaning, it still can cause communication problems. The theory and earlier research about prosodic transfer between L1 and L2 (Chun, 2002; Mennen, 2006) is thus confirmed. It has to be pointed out that none of the informants in this study live in any of those dialectal areas where stress in compounds can be placed at the last element, e.g. the northern part of Sweden.

Concerning the vowel quantity contrast in stressed syllables of minimal pairs it is important to make a difference both in quantity and quality, especially for the a-vowel, in Swedish. The auditory and acoustic analyses and comparison of the Swedish and the Kurdish speaker presented in Table 1 indicate that both the quantity of the phonemes and the vowel quality is of importance. The Kurdish speaker did not make a clear distinction between the duration of the most important phonemes in the two words and used the same a-vowel throughout, in the minimal pairs in this study.

The speakers in this study learned Swedish after the age of 17, i.e. as adult learners. They are interpreters between Kurdish and Swedish and are highly motivated to acquire Swedish on a high level of proficiency. Their accent is intelligible; however, a better control over the

placement of word stress, would facilitate the comprehension of their Swedish. One of the informants is more or less fluent with an almost correct Swedish prosody, which might be an indication that it is possible to acquire the Swedish prosody for Kurdish L1-speakers regardless of the age of onset and despite the differing word stress patterns between the two languages.

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Elisabeth Zetterholm is a senior lecturer and researcher in Swedish as a second language at Linnaeus University, Sweden. Her current research interests focus on pronunciation in second language acquisition, comprising segmental and prosodic issues. When teaching, most of her students are prospective teachers of Swedish as a second language and therefore she wants to develop the teaching methodology. She received her PhD in phonetics at Lund University, Sweden (2003). Her thesis and postdoctoral research were about voice imitation, with the focus on speaker identification and individual features in voice and speech.

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