

Foreign accent: influences of the sound system of Serbian on the production of Swedish L2

Mechtild Tronnier¹ and Elisabeth Zetterholm²

¹ Centre for Languages and Literature, Lund University, Lund, Sweden

² Department of Language Education, Stockholm University, Stockholm, Sweden

Abstract

Among the second language learners of Swedish from the group of first language speakers (L1) of the one of the standard languages that formed the pluricentric language Serbo-Croatian, Serbian currently seems to be most frequent L1. Based on recordings of L2-speech produced by two Serbian L1-speakers, living in Sweden, this contribution presents typical pronunciation features in L2-Swedish, in order to provide teachers with a better understanding of foreign accent characteristics when teaching Swedish as a second language.

Introduction

Due to the Balkan conflict in the mid-90s, there has been a flow of L1-speakers of any of the languages from former Yugoslavia migrating to other European countries. This flow of migration culminated in Sweden in 1994 (www.migrationsverket.se). According to the same source, however, some migration is still occurring, as their statistics show that ca. 500 applications for residence permits were handed in during the first four months of the year 2015. The applicants came exclusively from the Republic of Serbia.

In a survey obtained in 2011 (Tronnier & Zetterholm 2011) it was shown that L1-speakers of Serbian/Bosnian/Croatian were regularly found in the classrooms of Swedish as a second language, although they were greatly outnumbered by L1-speakers of e.g. Arabic and Somali.

Serbian was one of the standard languages of the pluricentric language Serbo-Croatian and is nowadays mainly spoken by the Serbs in what is now Serbia, Bosnia and Herzegovina and Montenegro. Croatian and Bosnian are the two other standard languages which formed Serbo-Croatian. The languages Serbian, Bosnian, and Croatian are all three of the Western South Slavic type. They differ slightly, but are mutually intelligible languages.

Among the students of L2-Swedish with any of the standard languages of the pluricentric Serbo-Croatian language as their L1, Serbian speakers are currently the most common. Therefore an analysis of foreign accent features observed for speakers with Swedish as their L2

and Serbian as their L1 will be presented in this contribution.

In the following section, the sound inventory of the Serbian language will be presented in a contrastive way, i.e. in comparison to the Swedish sound inventory. In addition, common pronunciation features in Swedish-L2 produced by speakers with Serbian as their L1 will be presented.

The sound system of Serbian in comparison with Swedish

Vowels

The Serbian vowel system comprises five phonemes /i e a o u/, whereas nine vowel phonemes can be found in Swedish /i y e ε ø a o u ʉ/, each of those found in long and short forms (Bruce, 2014). Basically, all vowels in Serbian are also present in the Swedish vowel system, but not the reverse. Vowels present in Swedish but not in Serbian include the front rounded long and short vowels /y ø/ and the central vowel /ʉ/. Furthermore, the distinction between the unrounded front close-mid and open-mid vowels /e ε / is not made in Serbian. Serbian presents us with only one vowel phoneme in that region: /e/, which – with some exceptions – has the quality of the open-mid vowel [ɛ] (Morén, 2006; Petrović, 2001). In addition, the back mid vowel /o/ is realized as an open-mid vowel, resulting in [ɔ].

In most cases, the short vowels differ in quality from the corresponding long vowels in Swedish in that the short vowels tend to be more

close. Variation in vowel quantity in Serbian, however, is related to the tonal accent and does not affect vowel quality.

Consonants

There is a large overlap in the consonantal inventory between Serbian and Swedish. In the case of voiceless fricatives, /ç/ and /fj/ occur in Swedish, and are not part of the Serbian consonantal inventory. Serbian, however, includes the fricatives /f/ and /x/, which are very close to those two in Swedish mentioned above.

Different labels are given for the back fricative in Serbian: in some sources it is named /h/ (Morén 2006; Petrović, 2001) and in some sources it is named /x/ (Speech accent archive; Garlén, 1988). No matter the label, there seems to be an agreement that the realisation is close to a velar fricative, namely [x]. Where there are two voiceless fricative phonemes in Swedish – namely /h/ and /fj/ – only one can be found in Serbian.

Furthermore, there is a discrepancy between nasals: Swedish presents a velar nasal /ŋ/, which does not occur in Serbian, which on the other hand presents a palatal nasal /ɲ/. The nasal /n/, however assimilates to [ŋ] in Serbian when placed prior to velar consonants (Garlén, 1988).

Two lateral consonants can be found in Serbian /l/ and /ʎ/, whereas only one – /l/ – is considered a phoneme in Swedish. According to Gick et al. (2006), /l/ in Serbian is velarized: [ɫ].

The consonants /r/ and /l/ take the role of the nucleus of the syllable, when they occur between consonants (Petrović, 2001).

Prosody and syllable structure

Serbian – similarly to Swedish – has flexible stress placement. In both languages, placement is to a large extent based on the morphology of the word. This implies that the speaker would need to know about the meaning and grammatical role – and probably history – of the morphemes assembled in a word to place the stress on the correct syllable.

In Swedish, quantity contrast appears on stressed syllables only (Bruce, 2012), while in Serbian it also occurs on unstressed syllables. Quantity contrast in Serbian is based on variation in vowel length, whereas in Swedish a complementary length variation materializes in most dialects. In the case of complementary length in Swedish, long vowels are coupled with a short or no consonant in the rhyme of the

stressed syllable and short vowels are coupled with long consonants (geminate) or consonant clusters in the rhyme of the stressed syllable. (Bruce, *ibid.*)

Tonal word accents occur in both languages, Swedish (Bruce, *ibid.*) and Serbian (Petrović, 2001). Despite the fact that the question of word accent use across tone accent languages is very interesting, no detailed analysis of this matter is presented in this contribution. The tonal shape of word accents varies a lot across the Swedish dialects – with some dialects not making any contrast. In addition, experience shows that incorrect application of the word accents does not lead to miscommunication in the first place. A question addressing word accent use across tone accent languages deserves a deeper analysis.

Consonant clusters occur in both languages and the number of consonants allowed in syllable initial and final position in both languages is two-three consonants. Nonetheless, a larger range of consonant clusters types are allowed in syllable initial position in Serbian than in Swedish.

Analysis of foreign accent features

Material and subjects

For the present study recordings were made of two female speakers with Serbian as their first language speaking L2-Swedish. The two speakers both lived in the south of Sweden and were both enrolled in classes for Swedish as a second language when the recordings were made. They had a good command of conversational Swedish and also reported on some proficiency in English. The recordings consist of read speech of Swedish sentences and a short text, and elicited spontaneous speech, namely the description of a picture story. The reading material was constructed so that all the Swedish segmental and prosodic phonemic inventory was present. This also includes some minimal word pairs, compound words and words with typical Swedish consonant clusters.

The foreign accent analysis was then carried out auditorily: instances of pronunciations which

Table 1. Overview over frequently diverging vowel pronunciation in L2-Swedish produced by L1-speakers of Serbian.

Phoneme	pronunciation		example	pronunciation		summary
	L1-Swedish			L2-Swedish		
1. /i:/	[i:]		<i>vit</i> [vi:t] “white”	[ɪ]: *[vɪtʰ]	/i:/ ([i:]) → [ɪ]	
2. /y/	[y]		<i>mycket</i> [myk:ɛ(t)] “a lot”	[ɪ]: *[mɪk:ɛtʰ]	/y/ ([y]) → [ɪ]	
3. /e:/	[e:]		<i>spela</i> [spe:la] “to play”	[ɛ:]: *[spɛ:la]	/e:/ ([e:]) → [ɛ:]	
4. /ø:/	[ø:]/[œ:]		<i>röda</i> [rø:da] “red”	[ɔ:]: *[rɔ:da]	/ø:/ ([ø:]) → [ɔ:]	
5. /ø/	[œ]		<i>höst</i> [hø:st] “fall”	[ɔ:]: *[hɔ:st]	/ø:/ ([œ]) → [ɔ]	
6. /o:/	[o:]		<i>håret</i> [ho:ret] “hair”	[ɔ:]: *[hɔ:retʰ]	/o:/ ([o:]) → [ɔ:]	
7. /u:/	[u:]		<i>hus</i> [hʉ:s] “the house”	[u:]/[ʊ:]: *[hʉ:s]	/u:/ ([u:]) → [u:]/[ʊ:]	
8. /a:/	[a:]		<i>svag</i> [sva:g] “weak”	[a:]: *[sva:g]	/a:/ ([a:]) → [a:]	

did not match with what was expected for Swedish were marked and transcribed. Major and clearly noticeable differences and recurring differences in pronunciation observed in the recorded material are presented in the following section of this contribution.

Vowels

The overview in Table 1 shows the most frequent divergence of vowel production in L2-Swedish. It seems that the diversity of the vocalic inventory in Swedish was accommodated within the five-vowel system of Serbian. In that respect the different levels of mid vowels in Swedish, which consists of vowels of mid close quality ([e o]) and mid open quality ([ɛ ɔ]) were not distinguished by the L2-speakers. In most of the cases, the mid vowels were realised as open mid vowels, (cf. example 3. and 6. in Table 1).

Moreover, the difference in quality between the short and long variant of /a/ in Swedish was not produced. Instead, the long open vowel /a:/ – which is realised as a more back vowel [a:] in Swedish – was produced by the L2-speakers with the same quality as the short open vowel /a/ – which is [a] – but with a longer duration, resulting in [a:] (example 8. in Table 1).

The rounded front vowels are usually one of the obstacles for L2-learners of Swedish. They were also affected by the L2-speech of the speakers we investigated, with Serbian as their L1. Thus, the rounded close front vowel /y/ was produced unrounded, resulting in [i] (example 2. in Table 1). The rounded midvowel /ø/ – both long and short, however, was not similarly altered by making use of the opposite lip articulation, but the tongue position was moved to a back articulation instead, resulting in [ɔ] – in the long

and short members of the category (examples 4. and 5. in Table 1). In this case spelling conventions might have played a role, as the letter <ö> – representing the phoneme /ø/ – is rather unusual in many languages. Serbian, on the other hand, is written with the Cyrillic alphabet so that the Roman alphabet should not have interfered necessarily. Nonetheless, the subjects reported on some knowledge of English, which is written in Roman letters.

The pronunciation of /u/ might also be influenced by the spelling, as its corresponding letter is <u>. Both, the long and the short members of /u/ were realised with a quality of [u] or [ʊ] by the L2-speakers (example 7. in Table 1). The letter <o> also contributes to pronunciation errors. In some cases the corresponding phoneme is /o/ and in other cases it is /u/, which leads the L2-speakers of Swedish to a preferred pronunciation of [ɔ], as in the example *stol* “chair” [stu:l] which was realised as *[stɔ:l].

There was a general tendency for the Swedish long vowels to be pronounced slightly more open by the L2-speakers than what would be expected in Swedish (cf. examples 1., 3., 6. and 7. in Table 1).

Consonants

In all cases, diverging pronunciation of consonants was based on a micro-level, i.e. only single features deviated from native pronunciation. There was a general tendency of word final devoicing for voiced stops: e.g. *svag* “weak” [sva:g] is pronounced as *[sva:g] in the L2-Swedish studied. Furthermore, voiceless final stops appeared with a clear aspiration, even when the final syllable should be unstressed, which is unusual for L1-Swedish. In that way,

rummet [ˈrʊm:ɛt] “the room” was pronounced as *[ˈrʊm:ɛtʰ]. On the other hand, aspiration was lacking where expected, namely when a voiceless stop introduced a stressed syllable, as in *pappa* “daddy” [ˈpʰap:a] which was pronounced *[ˈpapa] (Fig. 1).

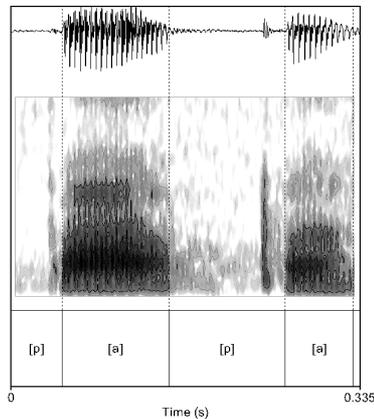


Figure 1. One of the speakers producing the word *pappa* without the aspirated stop, which usually introduces the initial – stressed – syllable.

The velar nasal [ŋ] occurs in Serbian as a contextual allophone of /n/, when another velar consonant follows. The Serbian L1-speakers addressed the Swedish phoneme /ŋ/ in a similar way: the Swedish spelling is <ng> and that might delude the reader to think that it should be pronounced as the sequence [ŋg], a voiced velar stop, which is preceded by a nasal, assimilated to the same place of articulation. The word which exemplifies such transfer is *många* “many” [mɔŋa], which was realized as *[mɔŋga]. Such a realization also occurred in the section of spontaneous speech and was therefore not only a result of reading. However, as adult learners tend to learn pronunciation factors in relationship to the written language than by listening to spoken language only, an assumption about pronunciation might have been made from spelling that also affects spontaneous speech.

It has been mentioned above that devoicing and aspiration of final stops was observed for the L2-speakers of Swedish. These components of foreign accent were also added to a word final velar nasal /ŋ/. In that way, a voiceless and aspirated homorganic stop was added to /ŋ/. For example the word *lång* “long” [lɔŋ] (/lɔŋ/) was pronounced as *[lɔŋkʰ] (Fig. 2).

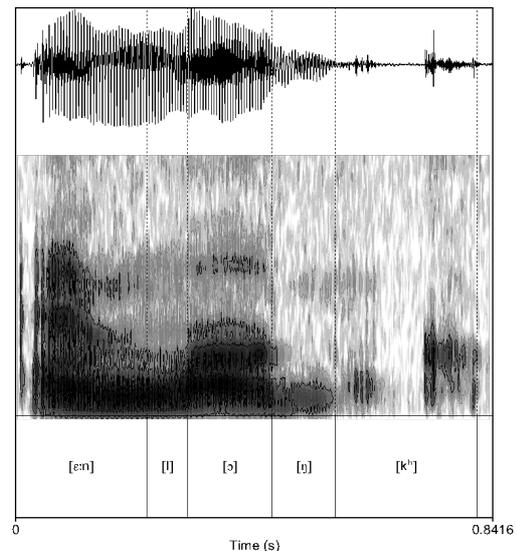


Figure 2. One of the speakers producing the word *lång*, adding a voiceless aspirated stop after the velar nasal.

In the southern variety of Swedish the lateral consonant /l/ is realized as [l]. Serbian has two laterals, one of which is palatal, /ʎ/ ([ʎ]) and the other one, commonly labeled as /l/, which usually is velarized: [ɫ]. This feature occurred frequently in L2-Swedish, e.g. the word *flygplatsen* “airport” [fly:ɡplɑtsɛn] was pronounced as *[flɪ:ɡplɑtsɛn].

The realization of /r/ as a trill [r] is possible in both Swedish and Serbian. In Swedish, however, it is realized as such when introducing a stressed syllable rather than in other cases, where variants of /r/ with a weaker articulation is preferred. The L2-speakers also applied the trill in syllable final position, and moreover in the final positions of unstressed syllables. This results in an appearance of /r/ which is unusually salient for Swedish. The sequence of words *tycker många* “many (people) find/think (that)” [tʰyk:ɛ(ɔ) mɔŋa] was thus realised as *[tʰiker mɔŋga].

Consonant clusters and the voiceless Swedish fricatives [ç] and [ç], which are usually difficult for L2-speakers, were not compromised.

Prosody and syllable structure

When it comes to placement of stress and vowel quantity, errors were made only occasionally. In addition, consonant clusters did not seem to cause any difficulties either.

What was rather striking was that when a short vowel was produced correctly, the following complementary geminates appear to be too short, as in *pappa* “daddy” [p^hap:a], which was pronounced as *[papa] (see Fig 1). Such pronunciation compromises the linking of the syllables in that a juncture is perceived in L2-speech between the vowel in the stressed syllable and the following consonant, the latter seemingly to introduce the post stressed syllable as a whole. Such a clear break between the syllables does not arise in L1-speech, where a part of the geminated consonant concludes the stressed syllable, and some other part of the geminate introduces the following syllable. With the juncture placed in a variant position, the flow of speech receives a rhythmic structure, which is unexpected.

A similar observation can be made about the use of /r/ in intervocalic position. As has been mentioned above, the pronunciation of /r/ as a trill in syllable final position makes it unusually salient. One further observation was that such pronunciation was realised in that way, that the syllable final – and morpheme or word final – /r/ seemed to be shifted into the syllable initial position of the following syllable, so that its association was moved from coda position to onset position. The sequence of *för att* “so that” [fœ.r.at], which resulted in *[fœ.rat] serves as an example, where the juncture between the syllables shifted to the place before /r/.

As pointed out above, the velar nasal /ŋ/ was almost always produced as [ŋg]. In intervocalic position the homorganic stop was then associated with the following syllable – within a word and also across word boundaries. When found at a word boundary, such a sequence obscures the identification of running speech as the appropriate word after /ŋ/ does not start with [g]. One example is: *sprang över* “ran across” [spran.œ:væ], which was pronounced as *[spran.ŋœ:vær] in L2-Swedish.

Other observations

Rules of assimilation – which feature does have an influence and whether it applies either backwards or forward – are a language specific characters. In Swedish, voiceless consonants usually have a stronger influence on voiced ones with which they are in immediate contact in either the same consonant clusters or across syllable and word boundaries. This often leads to the devoicing of the voiced consonants –

although sometimes only partially. It was observed, that L2-speakers produced the reverse: i.e. voiced consonants affected adjacent voiceless ones, which in turn became voiced. Thus, the word *glänste* “shone” [glɛnstə] – where the /n/ may be partially devoiced – was produced as [glɛnzdə], where the fricative became voiced, [z] – a sound that does not occur in Swedish at all. Such realisation of assimilation, however, agrees with the rules in Serbian – and for that matter also in other Slavic languages. In addition, the stop that followed was produced – although not voiced – with a weak burst.

Conclusions

Some of the observations from L2-speech described above have a stronger influence on intelligibility of communication than others. The factors which might make communication more difficult are presumably those which interfere with the rhythmic structure. In that way, the absence of germination, which leads to a coda consonant been shifted into onset position, the introduction of an extra consonant – including a consonant taking an onset position where no consonant is expected – and the strong articulation of /r/ – which is rare in final position and therefore likely to be apprehended as syllable onset – are seemingly effective modifications. More research based on an experimental procedure is needed to verify such assumptions.

Final devoicing of consonants, including aspiration, lack of syllable initial aspiration, introduction of a velar consonant after a velar nasal – unless preceding a vowel –, assimilatory voicing of voiceless consonants and most of the modifications of vowel quality made by the L2-speakers probably sound somewhat atypical rather than lead to problems in communication. A systematic analysis based on recognition tests would be beneficial to shed a clearer light on this matter.

References

- Bruce, G. (2010). *Vår fonetiska geografi*. Lund: Studentlitteratur.
- Bruce, G. (2012). *Allmän och svensk prosodi*. Lund: Studentlitteratur.
- Garlén, C. (1988). *Svenskans fonologi*. Lund: Studentlitteratur.
- Gick, B., F. Campbell, S. Oh and L. Tamburri-Watt. (2006). Toward universals in the gestural

- organization of syllables: A cross-linguistic study of liquids. *Journal of Phonetics* 34:1, 49-72.
- Morén, B. (2006) Consonant-Vowel Interactions in Serbian: Features, Representations and Constraint Interactions. *Lingua* 116, 1198-1244.
- Petrović, D (2001). Languages in Contact: Standard Serbian phonology in an urban setting. *Int'l. J. Soc. Lang.* 151: 19-40. Walter de Gruyter.
- Speech accent archive, <http://accent.gmu.edu>, retrieved 20150428.
- Swedish Migration Board, <http://www.migrationsverket.se>, retrieved 20150505.
- Tronnier, M & Zetterholm, E (2011). New Foreign Accents in Swedish. *Proc. 17th Int. Congress of Phonetic Sciences (ICPhS2011)*, Hong Kong, 2018–2021.