URUM
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Vowel harmony and noun inflection
in Caucasian Urum

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Abstract

This article is a study of vowel harmony within the nominal inflectional system of Caucasian Urum, a Turkish variety spoken by ethnic Greek speakers in Georgia. Empirical evidence comes from an elicitation study including repeated observations with eight native speakers of Urum. A comparison with the contemporary standard Turkish system in the same grammatical domain reveals that part of the systems is identical in both languages, namely vowel harmony with so-called A-type suffixes. However, in contrast to standard Turkish, some Urum nominal suffixes (belonging to the I-type) are partially opaque, others are completely opaque to harmony rules. Based on evidence from complex cases of suffixation we argue that opacity appears on the right edge of the harmony span, i.e., applies with priority to the rightmost suffixes of a word.

1. Introduction

This article presents data from Caucasian Urum, a variety of Turkish spoken by ethnic Greek speakers in Georgia. We observe part of the system of vowel harmony, namely harmonic rules in nominal inflection, and compare it with the Turkish harmony system in the same grammatical domain. In particular, we are going to present evidence from an elicitation study that was carried out with eight native speakers originating from the Tsalka region in Georgia.

Urum is the name of a Turkic variety spoken by ethnic Greek speakers in the Crimean Peninsula (Ucraine) and the Caucasus (Georgia). The language is very poorly documented and nowadays strongly endangered. Previous literature assumes that Urum developed from the Crimean Tatar language to which a subgroup of Crimean Greeks switched in the 18th century (see Podolsky 1986). At the same time, it is supposed that Caucasian Urum and Crimean Urum are varieties of the same language (see Podolsky 1986: 100). Both populations share in common that they are ethnic Greek and speak a Turkic language. However, historical evidence about the history of these two populations shows that they do not immediately relate to each other. Crimean Urum speakers originate in the Crimean Greek population that switched to the local Tatar language after contact with Crimean Tatars in the 18th century. Caucasian Urum speakers came to the

Caucasus from Anatolia, in particular from Kars, in the course of resettlements during the beginning of 19th century – and do not have any immediate historical links to the Crimean Greek population. They had probably switched to Turkish in a time prior to their resettlement on the Caucasus and their language developed in contact to the other languages of the region, most importantly Armenian, Georgian, and – in the 20th century – Russian.

The misunderstanding concerning the language identity in the previous literature is probably due to the fact that both groups refer to themselves with the same ethnonym 'Urum', which originates from the medieval ethnonym *Rōmiós* used for citizens of the Byzantine (Eastern Roman) Empire and to the fact that the available information about the linguistic properties of both languages is extremely poor.[1]

Today, Caucasian Urum is heavily endangered as is evidenced by the rapid decline of numbers of speakers living in the Tsalka district of Georgia, about 100 km Southeast of Tbilisi. According to Wheatley 2006 the number of Urum speakers of Tsalka decreased from 30811 in 1979 (following the census of the Georgian SSR) to an estimated population of 1500 speakers in 2006. This rapid decline is also due to the fact that a great majority of the speakers left the region migrating to Tbilisi or to Greece.

The data presented in this article come from the Caucasian variety of Urum, spoken in the Tsalka district of Georgia. They were collected through interviews with native speakers originating from Tsalka who lived in Tbilisi by the time of the interviews in September 2009. In particular, we examine data concerning vowel harmony in Urum. As many Turkic languages, Caucasian Urum displays rules of vowel harmony which affect the whole derivational and inflectional morphology of the language. In this article, we concentrate on the inflectional morphology of the noun and show in how far it deviates from contemporary standard Turkish (as described in reference grammars such as Kornfilt 1997 and Göksel & Kerslake 2005). An expansion of the study is planned which examines the phenomena under investigation in the Anatolian variety of Turkish of the Kars region, i.e. the region where the ancestors of the Caucasian Urum speakers originate

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[1] The *u-* is prosthetic since Turkic languages originally did not have *r* in word-initial position (see Podolsky 1986: 100).

from. This is to clarify in how far the Urum facts are identical or similar to the original Turkish variety the speakers had at their disposal when emigrating to the Causacus or whether there are changes as a result of an independent development in a different linguistic environment.

2.   Preliminaries: Vowel Harmony

Vowel harmony describes the phenomenon of spreading of a phonological feature of the vowel system to all the vowels within the word domain (see Chomsky and Halle 1968, Kaun 1995, Steriade 1995). Altaic languages show different patterns of vowel harmony (see Vago 1973 for an overview).

3.   Vowel harmony in Turkish

Turkish shows two types of vowel harmony (see Göksel & Kerslake 2005, sect. 3): a harmony concerning the front-back-axis (often called either *fronting* or *backness harmony*) and a so-called rounding harmony, harmonizing the vowels based on the feature [+/- rounded]. Vowel harmony rules apply to two different types of suffixes, so-called A-type suffixes, bearing the features [-rounded], [-high], and so-called I-type suffixes, bearing the feature [+high]. The plural suffix *-lAr* and the case suffixes *-(y)A* 'DAT', *-DA* 'LOC', and *-DAn* 'ABL' belong to the A-type suffixes. The case suffixes *-(y)I* 'ACC' and *-(n)In* 'GEN' and the 3rd person possessive suffix *-(s)I(n)* belong to the I-type suffixes.

Table 1 gives an overview of both types of harmony. A-type suffixes are realized as /e/ following syllables with the front vowels /i/, /e/, /ü/, and /ö/. They are realized as /a/ following the back vowels /ı/, /a/, /u/, and /o/. I-type suffixes harmonize not only according to the position on the front-back-axis, but additionally to the roundedness value of a preceding syllable, as indicated in Table 1. Thus, the front unrounded vowels /i/ and /e/ are followed by /i/ and the front rounded vowels /ü/ and /ö/ are followed by /ü/. The back unrounded vowels /ı/ and /a/ are followed by /ı/ and the back rounded vowels /u/ and /o/ are followed by /u/. Example (1a) illustrates fronting harmony with the A-type

plural suffix *-lAr*. Example (1b) illustrates fronting and rounding harmony with the I-type accusative suffix *-(y)I*.

Table 1. Turkish vowel harmony

				/I/	/A/
front	–round	+high	*i*	*i*	*e*
		–high	*e*		
	+round	+high	*ü*	*ü*	
		–high	*ö*		
back	–round	+high	*ı*	*ı*	*a*
		–high	*a*		
	+round	+high	*u*	*u*	
		–high	*o*		

(1)   Turkish

    a.   *ev-ler* 'house-PL', *çocuk-lar* 'child PL' (Göksel & Kerslake 2005:68)

    b.   *ev-i* 'house-ACC, *saray-ı* 'palace- ACC', *su-yu* 'water- ACC', *küçüğ-ü* 'small- ACC' (Göksel & Kerslake 2005:69/70)

4.   Caucasian Urum data

4.1.   Preliminary observations

At the beginning of our study we observed that Urum differed from Turkish concerning some harmony rules while other rules seemed to be identical. E.g. the A-type suffixes such as the case suffixes for dative *-(y)A*, locative *-DA*, and ablative *-DAn*, as well as the plural suffix *-lAr* behaved in Urum as known from Turkish (see (2a) and the respective cases in Table 2.

(2)   Caucasian Urum and Turkish (Göksel & Kerslake 2005:69/70)

    ev-ler 'house-PL', *ev-e* 'house-DAT', *ev-de* 'house-LOC', *ev-den* 'house-ABL'

Table 2. Turkish and Urum case paradigms of *ev* 'house' and *kız* 'girl'

Case	Turkish	Caucasian Urum	Case	Turkish	Caucasian Urum
Nom	*ev*	*ev*	Nom	*kız*	*ġız*
Gen	*ev-in*	*ev-ın*	Gen	*kız-ın*	*ġız-ın*
Dat	*ev-e*	*ev-e*	Dat	*kız-a*	*ġız-a*
Acc	*ev-i*	*ev-i*	Acc	*kız-ı*	*ġız-i*
Loc	*ev-de*	*ev-de*	Loc	*kız-da*	*ġız-da*
Abl	*ev-den*	*ev-den*	Abl	*kız-dan*	*ġız-dan*

Differences became visible with I-type suffixes, as with genitive suffix -(*n*)*In* and the accusative suffix -(*y*)*I*, as can be seen in Table 2. Furthermore, examples (3) and (4) show that the 3rd person possessive suffix -*(s)I(n)* in Urum is not harmonic in the same way as the corresponding Turkish suffix.

(3)

TRK   oda-nın   kapı-sı   (Göksel & Kerslake 2005:183)

      room-GEN   door-3.SG.POSS

URU   ev-ın   ɣapı-si

      house-GEN   door-3.SG.POSS

      (URU-VIO-004)

(4)

TRK   Ali-nin   oğl-u (Göksel & Kerslake 2005:183)

URU   Ali-nın   oġl-i

      Ali-GEN   son-3.SG.POSS

      (URU-VIO-026)

There are two basic questions arising from these observable differences between the standard Turkish paradigm and the Urum paradigm. Are certain Urum suffixes frozen or opaque to vowel harmony rules and, if yes, which ones? Is there a systematic pattern behind the observations in Table 2 or just a lot of (between and/or within-speaker) variation? To answer these questions we carried out an elicitation study on nominal morphological patterns which will be described in the following section.

4.2. Elicitation study

An elicitation study was implemented in a repeated-observations design. It was the aim of the study is to draw conclusions on the properties of the Urum suffixes in nominal inflection. The task was to translate sentences from Russian to Urum. Eight native speakers of Urum who were bilingual with Russian participated in the study (female 6, age range: 22-73, average: 57.1) in September 2009 in Tbilisi. The study was carried out by Violeta Moisieva who presented the Russian sentences orally and noted down the Urum translations given by the participants.

The questionnaire presented to the participants contained 96 Russian sentences. Each sentence was intended to elicitate an Urum target word as an instance of a word type with a given phonological shape. An investigation of vowel harmony in Urum nominal morphology has to consider the phonological conditions of eight possible vowel qualities in noun roots, as indicated in Table 3.

Table 3. Phonological conditions of the noun bases with example items

				item 1	item 2
front	–round	+high	*i*	*it* 'dog'	*pisik* 'cat'
		–high	*e*	*ev* 'house'	*eshek* 'donkey'
	+round	+high	*ü*	*üzüg* 'ring'	*dügyün* 'wedding'
		–high	*ö*	*göl* 'lake'	*köv* 'village'
back	–round	+high	*ı*	*ġız* 'girl'	*ġapı* 'door'
		–high	*a*	*at* 'horse'	*shar* 'city'
	+round	+high	*u*	*donguz* 'pig'	*ġush* 'bird'
		–high	*o*	*yol* 'road'	*horoz* 'cock'

Two lexical items per phonological condition were chosen as listed in Table 3. Each of these items was elicited through the translations in six inflected forms. These are enumerated and exemplified in (5). (5a-c) presents those cases where one suffix is added to a noun stem, namely the genitive suffix -(*n*)*In*, the 3rd person possessive suffix -(*s*)*I*(*n*), and the plural suffix -*lAr*. In (5d-g) two suffixes occur concatenated, namely the plural and the genitive suffixes -*lAr-In*, the plural and the 3rd person possessive suffixes -*lAr-I*(*n*), and the 3rd person possessive and the genitive suffixes -(*s*)*In-In*.

(5)   Conditions of morphological form of the suffix

(a)   GEN

       The old <u>dog's</u> name is beautiful.

(b)   3.SG.POSS

       Maria's <u>dog</u> is beautiful.

(c)   PL

       These black <u>dogs</u> are beautiful.

(d)   PL-GEN

       The old <u>dogs'</u> hair is beautiful.

(e)   PL-3.SG.POSS

       Maria's <u>dogs</u> are beautiful.

(f)   3.SG.POSS-GEN

       The name of Maria's <u>dog</u> is beautiful.

The 16 lexical items listed in Table 3 were presented in the 6 morpho-syntactic conditions given in (5) resulting in 96 sentences for translation. Each speaker translated all 96 sentences that were presented in eight different randomizations. Thus, the resulting data contains two observations per speaker for each phonological condition. No fillers were included in the study since the target of observation is completely non-visible to the speakers. The duration of one elicitation session was around 60 minutes.

5.   Results

5.1.   Valid data

Given the experimental task, the produced translations were included in the valid data set if they contained the intended target word with the intended inflectional suffix(es) for each grammatical condition. Hence, sentences in which the speaker chose another item than the intended word as a translation equivalent (which usually had a different phonological shape) were identified as non-valid. Furthermore, we excluded cases where the speakers added inflectional material or left out intended suffixes in the target words.

For instance, occasionally speakers added the plural suffix –*lAr* (e.g. in the condition (5a) – realization of genitive or in the condition (5b) – realization of the 3rd person possessive), or they left it out (e.g. in the condition (5d) – realization of plural plus genitive or in the condition (5e) – realization of plural plus 3rd person possessive). While such cases occurred only occasionally, in the condition (5f) there was a rather high number of non-valid items since it seems to be the case in Urum that in the sequence '3.SG.POSS-GEN' the possessive marker can be regularly left out (e.g. *üzüg-ün* 'ring-GEN' instead of *üzüg-ün-ün* 'ring-3.SG.POSS-GEN'). This is also usual in informal Turkish style.

5.2.   Simple suffixation

In this section the results concerning simple suffixation of genitive suffix *-(n)In*, the 3rd person possessive suffix *-(s)I(n)*, and the plural suffix *-lAr* will be presented. Figure 1 shows the percentages of which vowel the speakers produced with the genitive suffix after a given stem vowel group characterized by horizontal position and roundedness values. In (6) the predominantly produced forms of the items tested are given.

(6)   Results: Production of genitive suffix *-(s)I(n)*

(a)   front, -round

       it-ın 'dog-GEN', *ev-ın* 'house-GEN'

(b)   front, +round

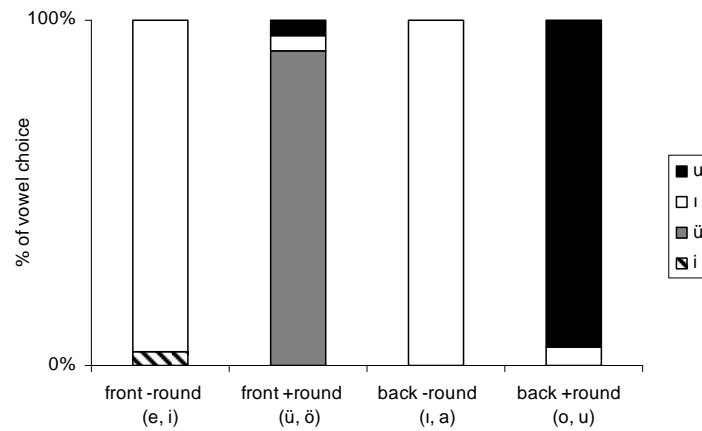   *üzüg-ün* 'ring-GEN', *göl-ün* 'lake-GEN'

(c)   back, -round

       ġız-ın 'girl-GEN', *at-ın* 'horse-GEN'

(d)   back, +round

       donguz-un 'pig-GEN', *yol-un* 'road-GEN'

Figure 1. Vowel quality of genitive suffix

% of vowel choice

100%

0%

front -round (e, i)   front +round (ü, ö)   back -round (ı, a)   back +round (o, u)

- u
- ı
- ü
- i

The first result visible in Figure 1 is that there is a small amount of variation in three of the four contexts. Apart from that a rather clear picture emerges as concerns the choice of the vowel of the genitive suffix -(*n*)*In*. The front and back unrounded vowels tend to harmonize with /ı/ (the high back unrounded vowel). Thus, the Urum data differ from the standard Turkish picuture in that the front unrounded vowels /i/ and /e/ do not trigger /i/, i.e. the high front unrounded vowel). In contrast, the Urum front and back rounded stem vowels dominantly trigger the high front and back rounded vowels respectively - as they do in standard Turkish, i.e. the genitive suffixes harmonize according to roundedness and the front-back-achsis. This result is presented in Table 4 in comparison to the standard Turkish system.

Table 4. Realization of genitive suffix in Urum vs. Standard Turkish
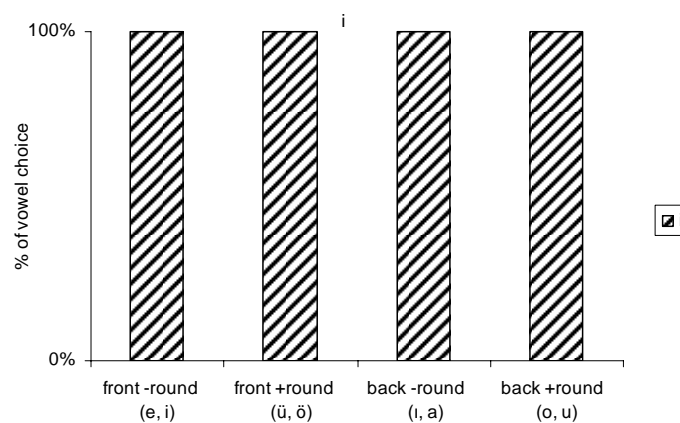
				Urum	Standard Turkish
front	–round	+high	*i*	*ı*	*i*
		–high	*e*		
	+round	+high	*ü*	*ü*	
		–high	*ö*		
back	–round	+high	*ı*	*ı*	
		–high	*a*		
	+round	+high	*u*	*u*	
		–high	*o*		

Summarizing it can be stated that there is a rather clear difference between Urum and standard Turkish vowel harmony in the genitive suffix -(*n*)*In* concerning the front unrounded vowels, which pattern with the back unrounded vowels in the Urum system. The feature [+front] is opaque to the harmonizing rules for the unrounded vowels of the genitive suffix. In conclusion, rounding harmony is effective but fronting harmony only applies to the rounded, not to the unrounded vowels.

Next the results concerning the second I-type suffix of the study, namely the 3rd person possessive suffix -*(s)I(n)*, are illustrated in (7) and presented in Figure 2.

(7)   Results: Production 3rd person possessive suffix -*(s)I(n)*

(a)   front, -round

   it-i 'dog-3.SG.POSS', *ev-i* 'house-3.SG.POSS'

(b)   front, +round

   üzüg-i 'ring-3.SG.POSS', *göl-i* 'lake-3.SG.POSS'

(c)   back, -round

   ġız-i 'girl-SG.POSS', at-i 'horse-3.SG.POSS'

(d)   back, +round

   donguz-i 'pig-3.SG.POSS', *yol-i* 'road-SG.POSS'

Figure 2. Vowel quality of 3rd person possessive suffix

The results in Figure 2 are very clear and no variation is attested. The Urum 3rd person possessive suffix is invariably /i/. No harmony process applies, the suffix is frozen and

opaque to vowel harmony. The difference to standard Turkish is illustrated in Table 5. As will become apparent further down in Section 5.3, the opacity to vowel harmony of the Urum 3rd person possessive suffix only applies in word-final position (in an open syllable). It seems very probable that the Caucasian Urum realization of the 3rd person possessive suffix can be related to the Turkish dialect of the speakers' ancestors. Note that in Old Turkic the possessive suffix *–(s)i* was invariable (see Johanson 1998:108, Anderson 1996). Dialects of the Trabzon area seem to have preserved archaic stages of harmony rules including the encoding of the 3rd person possessive and the accusative by means of /i/ (see examples in Brendemoen 1998:239). Evidence for variable and different harmony rules in comparison to contemporary standard Turkish can be found for Eastern Turkish (Brockelmann 1954) and Ottoman Turkish (Kerslake 1998).

Table 5. Realization of 3rd person possessive suffix in Urum vs. Standard Turkish

				Urum	Standard Turkish
front	–round	+high	*i*		*i*
		–high	*e*		
	+round	+high	*ü*		*ü*
		–high	*ö*		
				i	
back	–round	+high	*ı*		*ı*
		–high	*a*		
	+round	+high	*u*		*u*
		–high	*o*		

Finally we turn to the plural suffix *-lAr* and its realization in our elicitation study. Figure 3 presents the results while (8) illustrates the prevailing realization for each phonological condition.

(8)   Results: Production plural suffix *-lAr*
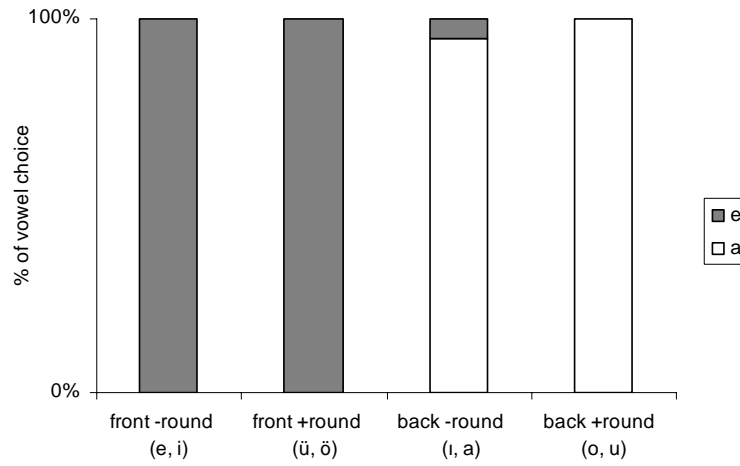
(a)   front, -round
        it-ler 'dog-PL', *ev-ler* 'house-PL'

(b)   front, +round
        üzüg-ler 'ring-PL', *göl-ler* 'lake-PL'

(c)   back, -round

  ġız-lar 'girl-PL', *at-lar* 'horse-PL'

(d)   back, +round

  donguz-lar 'pig-PL', *yol-lar* 'road-PL'

Figure 3. Vowel quality of the plural suffix

The experimental results confirm the preliminary impression expressed in Section 4.1 that harmony concerning A-type suffixes is intact in Caucasian Urum. Plural marking in Urum follows the fronting harmony as does plural marking in standard Turkish.

5.3.   Suffix concatenation

In this section effects of suffix concatenation in our study will be presented and discussed. We will observe the cases introduced in (5d-g) above, namely the concatenation of the plural and the genitive suffixes *-lAr-In*, the plural and the 3rd person possessive suffixes *-lAr-I(n)*, and the 3rd person possessive and the genitive suffixes *-(s)In-In*. The order of inflectional affixes is 'stem + number + person + case' (cf. examples in (9)

(9)   Suffix order in nouns

(a)   *ev-ler-in-in*

  house-PL-3.SG.POSS-GEN

'of his/her/its houses'

(b)   *at-lar-ın-ın*

horse-PL-3.SG.POSS-GEN

'of his/her/its horses'

Plural marking follows the rules indicated above. Given that the genitive suffixes following the plural suffixes are always in the context of an unrounded triggering vowel, they are expected to be *-ın*, i.e. carrying the unroundet back high vowel /ı/ following the Urum pattern given in Table 4. Furthermore, word-final realization of the 3rd person possessive suffix is expected to be /i/ following the pattern given in Table 5. Both expectations are largely corroborated by the data in this part of the study; only a few exceptions to this are attested. The patterns for the sequence 'PL-GEN' are given in (10).

(10)   Results: Production of plural and genitive *-lAr-In*

(a)   front, -round

       it-ler-ın 'dog-PL-GEN', *ev-ler-ın* 'house-PL-GEN'

(b)   front, +round

       üzüg-ler-ın 'ring-PL-GEN', *göl-ler-ın* 'lake-PL-GEN'

(c)   back, -round

       ġız-lar-ın 'girl-PL-GEN', *at-lar-ın* 'horse-PL-GEN'

(d)   back, +round

       donguz-lar-ın 'pig-PL-GEN', *yol-lar-ın* 'road-PL-GEN'

The last suffix sequence to be reviewed is that of the 3rd person possessive and the genitive suffixes *-(s)In-In*. From Table 5 we know that in word final position the 3rd person possessive suffix is invariably /i/. As in standard Turkish, the third person possessive suffix takes an /n/ if it is in non-final position. Thus, it displays the same shape as the genitive suffix in the examples we tested (i.e. words with consonant-final roots).

The first result of our elicitation study concerning the realization of the intended sequence '3.SG.POSS-GEN' is that – as is also usual in informal Turkish style – in a part of the data the speakers only realized the genitive suffix and left out the possessive marker

(e.g. *üzüg-ün* 'ring-GEN' instead of *üzüg-ün-ün* 'ring-3.SG.POSS-GEN'). These were identified as non-valid tokens in our countings (see Section 5.1). In all other cases, both suffixes were realized. Figure 4 shows the experimental results, in (11) the predominantly produced forms of the items tested are given.

(11)   Results: Production of 3rd person possessive and genitive *-(s)I(n)-I(n)*

(a)   front, -round

    it-ın-ın 'dog-3.SG.POSS-GEN', *ev-ın-ın* 'house-3.SG.POSS-GEN'

(b)   front, +round

    üzüg-ün-ün 'ring-3.SG.POSS-GEN', *göl-ün-ün* 'lake-3.SG.POSS-GEN'

(c)   back, -round

    ġız-ın-ın 'girl-3.SG.POSS-GEN', *at-ın-ın* 'horse-3.SG.POSS-GEN'

(d)   back, +round

    donguz-un-un 'pig-3.SG.POSS-GEN', *yol-un-un* 'road-3.SG.POSS-GEN'

Figure 4. Vowel quality of sequence 3rd person possessive and genitive suffix
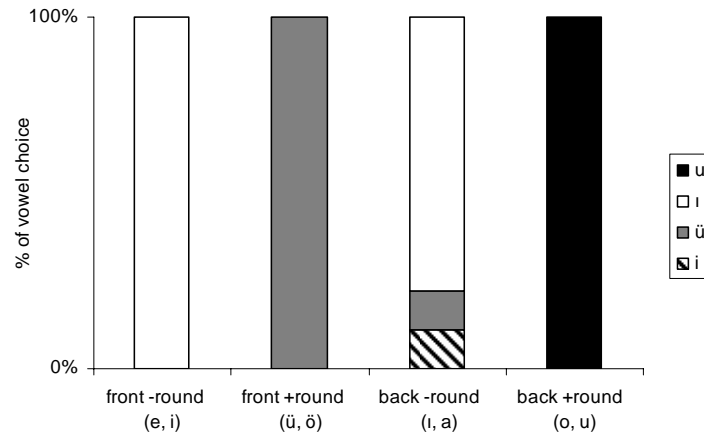

Figure 4 gives evidence for reduced harmony in the same way as has been described for the genitive suffix before; note that Figure 4 is very similar to Figure 1. Thus, the situation represented in Table 4 for the genitive suffix also holds for the concatenation of the 3rd person possessive and genitive suffixes. (a) Rounding harmony is generally operative with all groups of vowel qualites: a vowel with the feature [-rounded] is followed by a vowel with the same feature. The same holds for a vowel with the feature

[+rounded]. (b) Fronting harmony only applies to the rounded, not to the unrounded vowels. As is evidenced in Figure 4, the unrounded vowels are predominantly followed by the back unrounded vowel /ɯ/. This also holds for the front vowels /i/ and /e/.

6.   Summary and conclusions

The present study gives evidence of the micro-variation in a specific grammatical domain in an endangered language variety. We investigated vowel harmony in nominal inflection in the Turkish variety Urum, as spoken in Georgia by Ethnic Greek speakers. The elicitation study was carried out in a repeated observations design with 8 native Urum speakers. A comparison of the results with standard Turkish vowel harmony reveals a number of characteristics of Urum vowel harmony in nominal inflection. (a) Application of harmony rules: fronting harmony with the plural suffix applies in Urum as it does in standard Turkish. (b) Partial reduction of harmony rules: fronting harmony does not apply in the realization of the genitive suffix and the non-final 3rd person possessive suffix (I-type suffixes) after unrounded vowels while the rounding harmony is intact with these suffixes. (c) Complete opacity to harmony rules: the realization of the 3rd person possessive suffix is invariably /i/ in word-final open syllables.

Based on the behavior of the 3rd person possessive suffix in non-final vs. final position in a word, we hypothesize that opacity starts on the right edge of the harmony span, i.e., it applies with priority to the rightmost suffixes of the word.

Possible reasons for the fact that several Urum inflectional morphemes are opaque to vowel harmony and others show reduced harmony may be found in the relation of Urum to the East-Anatonlian dialect from Kars spoken by the ancestors of the current speakers which may have had (or still have) similar harmony (and non-harmony) rules. Harmony facts concerning the realization of the word-final 3rd person possessive suffix in Old Turkic and the Trabzon dialects which are supposedly historically close to the Kars dialect suggest that the Urum data can be explained by this historically link. The verification of vowel harmony in the Kars dialect is one mayor aim of future research. Furthermore, it needs to be tested in how far borrowing from surrounding languages, especially from Russian (see Skopeteas et al. 2011), had an impact on harmony rules.

The results in Figure 1 on the realization of the genitive suffix, in Figure 3 on the realization of the plural suffix, and in Figure 4 on the concatenation of the 3rd person possessive and genitive suffixes show slight but detectable variation. Only Figure 2 representing the realization of the Urum 3rd person possessive suffix in word-final position is without variation. Hence the answer to our intitially posed question concerning the amount of variation (see Section 4.1) is that there is limited variation in an otherwise rather clearly structured system of vowel harmony. The (rather small) degree of variation is not surprising for a language in an island situation being in contact with at least two other languages, Georgian and Russian, which are dominant in the non-domestic domain of the speakers' lives.

Glosses

ABL   ablative

ACC   accusative

DAT   dative

GEN   genitive

LOC   locative

NOM   nominative

PL   plural

POSS   possessive

SG   singular

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