VOWEL HARMONY IN THE EARLY BORROWINGS FROM SLAVIC INTO HUNGARIAN — PROOF OF ROOT VOWEL HARMONY?

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RESUMEN. El trabajo examina la manifestación de la armonía vocálica en los primeros préstmaos del eslavo a la lengua húngara, lengua que emplea la armonía vocálica, tanto los referentes a la armonía vocálica más o menos posterior como a la más o menos redondeada, y que es esperable que haya sido aplicada en el proceso de «hungarización» de los préstamos. Nuestro objetivo es analizar la naturaleza del fenómeno y sus gneralizados «pilares», uno de os cuales es que la armonía va desde los lexemas a los afijos y no al contrario. El examen de los primeros préstamos del eslavo y los reajustes vocálicos observados en la raíz sirven de base para afirmar que la dinámica de la armonía vocálica de la raíz es indudable.

PALABRAS CLAVE. Armonía vocálica lexemática, adaptación de préstamos, húngaro, lenguas eslavas.

ABSTRACT. The work examines the manifestation of vowel harmony in the early borrowings from Slavic into Hungarian – a language which employs vowel harmony - both [+/- back] and [+/-round] vowel harmony and it is expected that it would apply it in the process of "hungarianizing" of the loanwords. Its aim is to look into the question about the nature of the phenomenon and the generalized «pillars», one of which is the assumption that harmony runs from stems to affixes and not the other way around. The examining the early Slavic borrowings and the observed vocalic reajustments within the root give ground to claim that the dynamics of the vowel harmony within the root is undoubted.

KEY WORDS. Root vowel harmony, loanword adaptation, Hungarian, Slavic languages.

0. As a phonological phenomenon vowel harmony can hardly fail the linguist – its realizations in different languages prove to provide rich material for investigations. The first comprehensive surveys on vowel harmony featuring the phenomenon in different languages appear in mid 1970-ies, thus initiating a discussion on the domain, implication and the elements involved in the harmonizing processes in general. This fruitful discussion is continuing today, with contributers from both sides of the Atlantic Ocean (cf. VAGO 1980, SIPTÁR 1984, VAN DER HULST and VAN DE WEIJER 1995, RINGEN and VAGO 1998, ARCHIANGELI and PULLEYBLANCK 2002 and many others). The various aspects of the phenomenon are, naturally, language-specific. Yet, certain mechanisms in its functioning are showing universal tendencies. Therefore, namely by examining a given language it is

possible to complement the overall picture of the phenomenon. A language often presented as textbook example of a vowel harmony language is Hungarian.

1. If a language has vowel harmony, this means that the vowels in that language can be subdivided into disjoint subsets (called harmonic sets), such that all the vowels within a certain domain (usually a word) belong to a harmonic set. The restrictions on the co-occurrence of the vowels within a word, naturally, vary from language to language. In some, every vowel belongs to one of the two mutually exclusive sets and all vowels are drawn entirely from one or the other set. In others, there is an additional third set (neutral vowels set) whose vowels, however, may co-occur with vowels from either sets.

It is said that such harmonic systems can be motivated by the penetration of non-native lexical elements containing untypical vowel combinations, thus infringing some constraints in the phonotactics of the language. A general agreement is that loanwords often violate the vowel harmony observed by native roots, especially as far as the inner-root vowel configuration is concerned. Within the framework of generative phonology descriptions of vowel harmony have predominantly been concerned with the behaviour of affixes attached to roots[1] as opposed to the vowel «destiny» of the adapted loanword (within the stem), assuming, it seems, that it is beyond the reach of the vowel harmony regulations.

The aim of the present paper is to reveal the influence of the phonological phenomenon vowel harmony on the vocalic structure of the loanwords in the process of adaptation. The purpose is to shed some light on the so-called *root vowel harmony* in Hungarian whose existence is sometimes even doubted by the linguists[2].

Evidence for realization of harmonic or disharmonic processes in the words is found examining a specific layer of the Hungarian lexicon – the Slavonic loanwords (i.e. words with Slavonic origin or words which have entered Hungarian via a Slavonic language). It is expected that in the course of reception of foreign words into a language they are adapted and modified in accordance with the productive phonological regulations, processes and constraints operating in the borrowing language. Hungarian, as a Finno-Ugric language with a finely developed harmonizing system, offers an appropriate framework. The Slavonic loanwords, a large number of which have entered the language around 10-15th c., give rich material for investigation of this particular implication of the vowel harmony.

1.1. The data have been excerpted from etymological dictionaries and specialized literature. The main source for the language material of Slavonic loanwords in Hungarian is the comprehensive two-volume work of István Kniezsa *A Magyar nyelv szláv jövevényszavai* 1-2[3]. Two basic aspects of the phonological adaptation allow to track the influence of the harmonizing processes within the root: adaptation involving the occurrence of a new vowel in the sound structure of the word, and re-configuration of the vowels in the root as a result of perception of the lexical elements. Here we are focusing on the first aspect and we will discuss the loanwords with prosthetic and epenthetic vowels.

2. Before turning to the actual realizations the root vowel harmony in the loanwords, it is useful to review briefly the general characteristics of the Hungarian vowel harmony.

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[1] In the present work *root* is used as defining the base lexical element to which the suffixes are added, i.e. in this respect cardinally it can be also treated as the *stem* (after NÁDASDY and SIPTÁR 2001: 154). Thus, each loanword, regardless of its morphological structure, is treated as a root in the morphophonological and morphosyntactic relations in the language.

[2] It is more common to refer to a *tendency* for harmonizing the vowels within one stem/root rather than a principle (cf. Siptár 1999).

[3] For more detailed information see Вишоградска 2007.

Hungarian has a rich vowel system – 14 vowels, 7 of which short and 7 - long. As with every vowel harmony language the vowel system is subdivided into two main sets: the harmonic and the neutral vowels:

(1) harmonic vowels				neutral vowels	
back		front			
u [u]	ú [u:]	ü [y]	ű [y:]	i [i:]	í [i:]
o [o]	ó [o:]	ö [ø]	ő [ø:]		é [e:]
a [o]	á [a:]	e[4] [e]			

(based on Kiss, KIEFER AND SIPTÁR 1999: 297-298)

It «hosts» a [+/-back] harmony and also, somewhat disputably, a [+/-round] harmony (for discussions on the status of labial harmony in Hungarian see for example Polgárdi and Rebrus 1998). Traditional description can be expressed with the following well-formedness statement:

(2) In a [… V1 … V2] sequence V1 and V2 agree in frontness or in backness,

Resulting in harmonic [+back] sequences, for example, *barát* 'fiiend'*, mosogató* 'sink'*, udvar* 'yard' etc, or in harmonic[-back] sequences, e.g. *kenyér* 'bread'*, könyvelő* 'accountant'*, ember* 'person' etc.

The domain in which the harmony requirements hold is the *phonological word*. The concept of this term is somewhat disputable, as we know, certain suffixes may form their own phonological words, compounds may consist of two phonological words etc. We do not go in these issues here, and – regarding the lexical element formed after reception – I will refer to this type of harmonic domain simply as a *root*.

3. It is expected that each new word entering Hungarian will undergo an adjustment, relevant for the phonotactics of the language. Naturally, «foreign» vowels, non-existent in the Hungarian vowel paradigm, are substituted with the ones found in the language. In some cases the adaptation triggers a mechanism which could unveil the scope of vowel harmony from a perspective that has not been examined so far, namely, this material provides new data for the involvement – thus presence – of the harmonizing processes within the root. Hungarian, like the rest of the Finno-Ugric languages, does not tolerate consonant accumulation word initially. However, as we know, such consonantal clusters are characteristic of all Slavonic languages. Therefore, whenever such Slavionc word (#CC(C..)_) is borrowed, an additional (prosthetic/epenthetic) vowel is inserted to break up the accumulation of two, three (randomly four) consonants. By examining the nature of the chosen vowel it is possible to trace the influence of the harmonizing rules.

To estimate to what degree the vowel harmony is responsible for the choice of the inserted vowel, I consider the following point. The adaptation is a phonological process taking place within the frame of the borrowing language; the examined from (of the loanword) is a Hungarian word abiding the Hungarian phonological (and grammar) system. In other words, it makes sense to look for harmonizing processes in the roots of the loans,

[4] The status of *e* has remained controversial (cf. NÁDASDY and SIPTAR 1994). Traditionally it has been treated as a front harmonic vowel (cf. SZÉPE 1958). However, it does appear with back vowels in native roots, suggesting that it is neutral. For arguments in favor of front harmonic see, for example, RINGEN 1980.

even though the direction of implementation is regressive[5] (as opposed to the "real" *root+suffix(es)* vowel harmony where the direction is progressive).

Departing from the above assumption and knowing that vowel harmony is a powerful regulation, let us also assume that all the added vowels will be chosen according to the vowel stock of the word. In most of the cases vowel harmony is clearly present – the vowels are organized so that the adapted word is normal for Hungarian and it fits the phonotactic requirements. However, there are certain examples which show disharmonic choice of prosthetic/epenthetic vowel[6].

3.1. Let us first consider the forms in which there is positioning of the vowel before the consonantal cluster. The group of prosthetic vowels registered in the Slavic loanwords[7] is: Vpr {a, o, u, e, i, ö}.

(3) Prosthetic vowel (#CC(C) > #VCC) – harmonic forms

prosthetic vowel	vowel stock of the word	source form	
[+back]	**[+back]**		
a	asztal	stolъ	'yard'
o	otromba	trçba	'uncouth'
u	udvar	dvorъ	'table'
[-back]	**[-back]**		
ö	östör	štir	'dock'

This array of vowels shows that the function of the prosthetic sound is not covered by a single sound (irrespective of the vowel harmony). Rather, the phonotactically unacceptable combinations are adapted individually, according to the vowel stock of each word. In the table above there are no examples of [-back] adapted forms with the front, illabial prosthetic vowels *e* and *i*. This is because there was not even a single example for such harmonic combinations in the sources.

(4) Prosthetic vowel (#CC(C) > #VCC) – disharmonic forms

prosthetic vowel	vowel stock of the word	source form
[+back]	**[-back]**	

[5] Traditionally Hungarian vowel harmony is defined as progressive (highly motivated by the agglutinative nature of the language where it is namely the progressive adding of elements that is grammatically or lexically productive) (cf. KIEFER 2001).

[6] The distinction of the added vowel into prosthetic/epenthetic is quite formal, for the purpose of a more clear presentation. It is not the aim here the define the exact sound changes – prosthesis, epenthesis and/or metathesis – that occur during/after adaptation.

[7] The function of the examples here is simply to illustrate the vocalic configurations and they do not account for quantity. The examples given all throughout the paper are from Kniezsa 1974.

/	/		
[-back]	**[+back]/mixed**		
e	eszterág	*strk	(dial.) storck
i	iszalag	slak	'bushy plant'

The examples show that in respect to the front prosthesis the other harmonizing feature in Hungarian – [-round] also plays a role: the front harmonic forms share both [-back] and [+round], cf. (3), whereas the disharmonic forms occur in those cases where the vowels are [-round], cf. the table above. These characteristics are generalized in the following two rules:

(5) a. Vpr → [-back, +round] / __#CnV[-back, +round]C
b. Vpr → [-back, -round] / __#CnV[-back, -round]C[8]

Thus, in regards to the vowel harmony influence, the prosthesis reveals two main aspects: application of the harmonic process and ignoring the harmonization. The examples with [+back] root vowels give the richest range of prosthetic vowels, including disharmonic forms – Vpr {a, o, u, e, i}. The examples of front vowel roots show harmonic form with one vowel – Vpr {ö}. Among the various combinations of prosthetic vowel and roots, both front and back, some systematic strategies have been defined. They are generalized in (6) below:

(6) Vpr+Slav.lexical element → Hung. root
a. If the root consists of [-back] vowel(s), then the prosthetic vowel will be [-back] as well.
b. If the root consists of [+back] vowels, then the prosthetic vowel will be either back or neutral (i.e.[-back]).
c. The examined material clearly shows influence of the root vowel (monosyllabic words). Exceptions are those cases where the borrowed element is polysyllabic with a root with mixed harmonic vowels.

Along with the systematic [-back] harmonizing of the prosthetic vowels with front roots, there are some examples where a [+back] vowel input form does not trigger a [+back] harmonization, e.g. *sl**a**k* > *i*+*sz**a**l**a**g*.

[+back][-back][+back]

[-back, -round] vowels appear in prosthetic position added exclusively to [+back] roots. A linear presentation of such disharmonic adaptation is:

(7) 1. Vpr …… 2. V root
[-back] ← [+back]

The disharmony in the adapted roots shows a certain degree of «ignorance» in connection of the tendency for harmonizing of roots in general. It seems the languages allows for a relative freedom in the choice of prosthetic vowel in respect to harmony. Perhaps one explanation

[8] Where Vpr is a prosthetic vowel, Cn - one or more consonants.

would be that it registers the prosthetic sound as an appendix to the word (the wide range of prosthetic vowels support that).

In general, the main tendency for choosing a prosthetic vowel is the following: an identical vowel to the one in the root is employed to fulfill the function, revealing a regressive harmonization. The rule is (8) illustrates it:

(8) V → α V / ___#{Cn α V Cn}

where α is a set of features characterizing the root vowel, Cn is a consonantal element consisting of min. one segment.

In cases where the root (input form) is polysyllabic, then it is the first vowel that is the source of phonological material for the prosthetic vowel (the initial vowel is reduplicated).

3.2. Let us now consider the examples where the vowel is thrust between the consonants. They are far more than the prosthetic ones and present a slightly different harmonizing picture. The group of epenthetic vowels registered in the Slavonic loanwords is: Vep {a, o, u[9], e, i, ö}.

(9) Epenthetic vowel (#CC(C) > #CVC(C) – harmonic forms

epenthetic vowel	vowel stock of the word	source form	
[+back]	**[+back]**		
a	barát	bratъ	‘friend’
o	dolog	dlъgъ	‘work; thing’
[-back]	**[-back]**		
e	derék	drěkъ	‘waist; back’
i	zsilip	židovъ	‘lock’
Ö	görög	grьkъ	‘Greek’
Ü	bürü	brьvъ	‘(a kind of) bridge’

Similarly to the examples for prosthesis, here again there is no generated function for a [+back] or [-back] epenthetic vowel which is to be employed in the process. The overall picture of occurring vowels shows certain dependence from the root vowels, i.e. the set of features characterizing the root vowels predetermines the “new’ vowel, cf. above. Furthermore, in some cases where the input form has a mixed front and back vowels composition, apart from the epenthetic “hungarization” there is also a re-configuration of the vocalic elements so that they are harmonized, e.g. ***k*alap*á*cs** *XIV* < ***klepa**čъ* ‘hammer’.

Strikingly, there are no disharmonic forms resulting from adaptation involving epenthesis, apart from some marginal exceptions. Most of the Hungarian disharmonic forms are with mixed vowel configuration not due to the non-harmonic epenthetic vowel, but as a

[9] Quite marginal occurrence. It is also unclear whether it is not merely a metathesis*, e.g. kulcs* < *ključь* ‘key’

result of preserving the original, Slavonic vocalic configuration, e.g. *gerenda* < *grędna* 'beam'. Hence, there is a strict regularity for the choice of epenthetic vowel in cases where the vowel stock in the root is monolith in regards to harmonic features. If the vowel stock of the word is harmonic – either [+back] or [-back], then the epenthetic vowel will also carry the same feature and the adapted Hungarian form will be harmonic:

(10) Vep → [αback] / Vroot [αback]

The harmonic feature [+back], or respectively, [-back] is spreading over the epenthetic vowel. Due to the fact that epenthesis is occurring in the onset of the first syllable, the spreading of the harmonic feature is regressive. Therefore, a regressive influence of the vowel harmony can be ascertained. Through epenthesis a new syllable is created, thus preserving the homogenous (from the point of view of harmony) vocalic composition of the word.

4. The prosthetic adaptation also creates a new initially positioned syllable. However, there the situation in regards to harmonization is almost contradictory. The prosthetic vowel can be the cause of disharmony in the adapted loanword, i.e. there are examples where the choice of vowel is not regulated by harmony. The data reveal dominance of front to back prosthetic vowels. Front ones can occur with back roots. This fact points to the tendency of less markedness of [-back] feature (for positing the [+back] as the deep structure harmonic feature of Hungarian harmony, cf. for example Vago ..). Such tendency, however, is not characteristic for the epenthetic structures.

The examined language material provide results that reveal a clear influence of the vowel harmony in the process of phonological adaptation, affecting the inner root vocalic configuration. Moreover, the direction of the harmonization in the loanwords is regressive, which is a new evidence for the scope and domain of the phenomenon. Still, it has to be accounted for the fact that the examples are bound with certain chronological borders. As it was mentioned above, the Slavonic loanwords have entered the language round 10-15 c., which gives them a high degree of nativization.

5. The existence of vowel harmony in natural languages raises many questions about the nature of the phenomenon and the generalized "pillars", one of which is the assumption that harmony runs from stems to affixes and not the other way around. Some linguists even claim that root vowels are not pliable to vowel harmony (Clements and Sezer 1982: 213-255). Such suggestions predetermine a rather cautious attitude towards the inner root harmonic relations. In the linguistic circles it is often voiced that de facto we find vowel harmony in suffixation process, and the root vowel harmony is somehow disregarded. Because of the characteristics of the Slavonic lexical elements, in their reception in Hungarian a cleft is formed demonstrating that a non-suffix vowel, mainly preceding the root vowel(s), is generated. Such a vowel does not have a preconditioned set of features but is entirely arbitrary and in practice becomes an integral part of the root composition. This fact gives reason to conclude the following.

In general, the dynamics of the vowel harmony within the root is undoubted. On the basis of the examined material it can be concluded that its influence and operation triggered in specific conditions follows the same pattern as the trans-morpheme constructions.

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