

Theses of PhD dissertation

Orsolya Forró

Variation in Hungarian backness harmony

Aspects of the investigation and interpretation of the synchrony and diachrony of variability

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Pázmány Péter Catholic University, Piliscsaba

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1. The problem

The broader topic of the dissertation, **backness harmony** (BH), is undoubtedly the best known and most discussed phenomenon of Hungarian phonology. On the other hand, this is one of the least covered areas of linguistic research, since BH shows quite significant **variability** within one language variety, even within the standard. Not being describable by using relatively simple rules based on well-formedness judgements, variation is one of the less preferred topics of generative linguistics. As a consequence, in most analyses the results of **empirical studies** aiming at variability of BH (Szépe 1958, Kontra and Ringen 1986, 1987, Ringen and Kontra 1989) have been ignored.

During the last decade, there has been growing interest in the area of variability of BH (Hayes and Londe 2006, Hayes *et al.* 2009, Kálmán *et al.* 2011 a, b, Rebrus *et al.* 2012). In two studies based on comprehensive data collection and using representative and combined methods Hayes *et al.* (Hayes and Londe 2006, Hayes *et al.* 2009) proved that by investigating the so-called **zone of variation** of roots showing unpredictable suffixation **regularities** can be observed that are assumedly part of the competence of speakers. Therefore, the characteristics of the zone of variation are relevant not only for description but also for theory.

By now, it is clear that we are facing a phenomenon that is much more complex than previously suspected. Moreover, the variability of BH is relatively stable temporally so cannot be interpreted as a rapidly changing, negligible periphery (Kálmán *et al.* 2011a: 201). Since variability is also present in other harmonic systems, by mapping the zone of variation of BH we may have the opportunity to get closer to the general characteristics of harmony.

However, primarily due to the small number of studies,¹ we do not have enough data for the adequate description of the zone of variation. The goal of this research is

¹ See Chapter 2. of the dissertation for the necessity to conduct further studies and for the details of previous studies.

to partly fill this gap, as the continuation and supplementation of previous empirical studies in the field.

Another, „neglected” area of BH, the diachrony of the zone of variation is studied in my dissertation. The literature on the history of harmony is quite rich if the periods farther in the past of Hungarian are considered, however, the more direct background of the current state were not subjected to thorough analysis.

2. Data

In the main part of the dissertation (Chapters 3-6) I focus on the factors that affect suffix choice in the zone of variation. Since the issue can only be studied reliably and effectively by using a significant amount of data, I created a database using a representative corpus, the **Hungarian National Corpus** (Váradi 2002). The database contains the number of matches for the front and back allomorphs of suffixes of **1000 roots** that end with one or two **neutral** (hereinafter: N) vowels. As opposed to previous studies I have taken into consideration not one or a few, but **21** suffixes. As a result, the amount of data has increased significantly and the harmonic behaviour of suffixes could be studied in detail.²

For previous surveys mainly questionnaires and/or data collected from the internet were used; however, the use of the representative corpus offers notable advantages, namely from the following aspects.³

- The amount of usable data is much higher compared to the studies based on questionnaires.
- The texts of the corpus were made with a communicative purpose, thus data can be considered the natural manifestations of language competence, as opposed to the data of questionnaires, which might be influenced by several factors e.g. the motivation to approximate the norm.

² See Chapter 2.3. of the dissertation for the details.

³ See Chapter 2.2. of the dissertation for the analysis of previous studies. The benefits and limitations of my method are described in detail in 2.3.3.

- There is much less irrelevant data in comparison with online research.

The use of the Corpus allowed a more thorough analysis of issues concerning variability of BH already studied before, which could be done using large amount of data coming from reliable sources. Also, some of the issues that had not been subjected to analysis previously could be examined this way.

3. Results

3.1. Vacillation

Being an important characteristics of numerous roots belonging to the zone of variation, defining and exploring **vacillation** (free variation in harmonic suffixation) is an important though mostly ignored part of the analysis of the variation in BH.⁴ After a survey of the possible interpretations of vacillation (see Chapter 3.1.) an attempt is made to find general features of vacillating roots (see Chapter 3.2.). Previous results and hypotheses related to the different degrees of vacillation of suffixes are also examined (see Chapter 3.3.).

The data show that **active** vacillation (that is, vacillation experienced in production) shows **regularities** relevant for the analyses. The most frequent form of vacillation is **dominant** vacillation, that is, free variation characterised by the considerably higher frequency of front or back suffix variants. It is observable that the stronger the vacillation is, the fewer roots it affects; so the examples of vacillating roots often mentioned in grammars (*fotel*, *dzsungel*, *Ágnes* etc.) are **not** typical instances of vacillating suffixation in this respect. The dominant suffixal variants of roots are in general identical to suffixal variants applied to **stable** roots of the same structure. Vacillation in BH, therefore, means that in addition to the suffixal variant most frequently attached to a root type, the other allomorph occurs in much smaller proportion. Thus the option of vacillation is less significant than the dominant suffixation pattern of the root type, which differs to a great extent in the case of

⁴ See Chapter 3. of the dissertation.

dominantly back suffixed roots ending with *é/i/í* and dominantly front suffixed roots ending with *e*.

Regarding the varying degree of variation of **suffixes** the results of studies conducted by Kontra and Ringen (1986) and Gósy (1989a, b) show inconsistent differences, where any intuitions supposing more systematic differences (Papp 1975, Abondolo 1988) can be considered idiolectal. The data analysed show that there is a quasi-systematic difference in the tendency for suffixes of different structure to vacillate. Suffixes containing epenthetic vowel or *o~e* and *ó~ő* alternation show less variation than suffixes with stable vowel or *a~e* alternation.

3.2. Phonological factors affecting suffix choice

3.2.1. Height and Count Effect

The most salient regularities of the suffixation of mixed-vowel roots ending in N vowel(s), the Height and Count Effect occur mostly uniformly, but from a few less significant aspects differently in three surveys, namely in the Hayes–Londe (2006) *Google survey* based on data collected from the internet, their so-called *wug test* applying nonce words (in the same paper) and in my own *corpus analysis*. The results of Hayes and Londe do not need any confirmation, but their results show differences, "irregularities" that need some explanation. Though Hayes and Londe did not leave the issues raised in their works without explanation, in Chapter 4.2. of the dissertation it is argued that their explanations relating to the competence of the speakers are inadequate. The differences can be explained by very "simple" reasons, e.g. factors influencing the manifestation of the competence of subjects and characteristics of the content of the database. By taking these factors into consideration the Height and Count Effect shows regularity and occurs strongly in these studies of the lexicon and productivity, however, in the group of roots ending with NN vowels these effects are less obviously manifested than in the ones ending with N.

Regarding the Height effect it is important to emphasise that the effect of the quality of the root-ending N vowel can not only be observed in the last, but also in the penultimate position (see Chapter 4.3.).

N vowels show differences in their behaviour in alternating and non-alternating (stable) suffixes. While the degree of transparency of *e*, *é* and *i/i* in roots and alternating suffixes is mostly uniform, this is not typical of non-alternating suffixes. Certain non-alternating suffixes are transparent irrespectively of the quality of their N vowel (e.g. *-ék*), while other suffixes are capable of inducing vacillation even in stable roots (e.g. *-né*). The behaviour of the N vowels in non-alternating suffixes, similarly to the vacillation of alternating suffixes, needs to be subjected to further examination.

3.2.2. Other phonological factors affecting suffix choice

Considering the effect of other phonological properties of roots on suffixation, my results are different from those of previous studies; the role of phonological factors other than the Height and Count Effect in BH is, based on my observations, less intensive than assumed before.

A detailed study of the assumptions of Kontra and Ringen regarding stress and harmony proves that the heterogeneous data groups analysed in their works (1986, 1987) only seemingly show the effect of stress. The problem of the stress concept finally outlined in Ringen and Kontra (1989) is that the authors trace back the effect of the number of syllables to the primary effect of stress, without any particular reason, since the data showing the effects of stress in other languages are insufficient to consider the conclusions relevant for Hungarian.⁵

I could not confirm the regular correlation between syllable number and suffixation, so I was forced to reject the assumption previously supported even by myself that syllable number in general has an effect on suffixation, however, in roots

⁵ See Chapter 5.1. and 5.2.2. of the dissertation for details on the relation between stress and BH.

ending with *e* and *é* a significant difference can be observed in the suffixation of two- and three-syllable roots.⁶

The quality of **back harmonic triggers** only has a role in certain groups of stems (e.g. back suffixation is stronger in two-syllable roots containing *a* and *e* vowels: *haver*, *matek*, *Malek* etc.).⁷ Therefore, other than the Height and Count Effect root vowels do not exert any regular and phonologically motivated effect on suffixation.

I also could not confirm the previously published results regarding the effect of root-ending **consonants**.⁸ Out of the four so-called unnatural constraints favouring front suffixation (Hayes *et al.* 2009) I succeeded in demonstrating the effect of root-ending consonant clusters only, but only in one root type (bisyllabic roots ending with *e*), not in the entire zone.⁹ The structure of the ending of the root is relevant in other respects as well: the suffixation of the root types with filled vs. unfilled coda is different, though only in certain types (e.g. bisyllabic roots ending with *é*).

In the light of these results the effect of consonantal environment assumed by Hayes *et al.* is rather insignificant and less systematic. The quality of consonants presumably has an effect in quite specific environments, similarly to other phonological factors examined in this chapter. Generally, the quality and quantity of root-ending N vowels and/or other factors considered idiosyncratic determine suffix choice.

3.3. Non-phonological factors affecting suffix choice

In the dissertation it is pointed out for the first time that certain non-phonological factors can be held responsible for "idiosyncratic" suffixation (including type-specific effects). In Chapter 6 two such factors are discussed in detail.

⁶ See Chapter 5.2. of the dissertation for details on the relation between stress and BH.

⁷ See Chapter 5.3. of the dissertation.

⁸ See Chapter 5.4. of the dissertation for details on the correlation between root-ending consonant structure and BH.

⁹ See Chapter 5.4.3. of the dissertation.

In Chapter 6.1. it is demonstrated that the vast majority of words with atypical suffixation are foreign **compounds** or monomorphemic roots resembling compounds. I am convinced that the authors who previously studied BH assumed unjustifiably that the speakers do not "consider" the possibility of the morphological complexity of words with foreign origin; the speakers decide whether those are more similar to compounds or simplex roots relying on their knowledge and/or certain (mainly structural) characteristics. Hence, **vacillation** in compounds and quasi-compound elements of foreign origin is actually **motivated**: due to the lack of clear morphological borders, speakers make unpredictable decisions regarding the morphological complexity of words.

There are certain properties of compounds of foreign origin that facilitate their identification as compounds. Some of these properties exert an effect on suffixation that can be demonstrated statistically. In the vacillating *é* and *i/i* ending groups the recognisable suffixes (e.g. *-méter*, *-gén*, *-lízis*) and the prefixes ending with *-o* (e.g. *hidro-*, *hetero-*, *bio-*) are influencing suffix choice independently of any other effects. In my database the effect of morphological complexity seems to be quite significant.

While the effect of compoundness and quasi-compoundness on suffixation can be observed primarily in words of Greek-Latin origin and ending with *é* and *i/i*, in other groups of loan words, namely bisyllabic roots of German/Yiddish origin that end with *e* suffix choice is influenced by the connection of style and harmony influences. This issue is discussed in detail in Chapter 6.2. of the dissertation.

The connection of disharmony and informal style is not only manifested in the suffixation of loan words, but also in that of native words: a significant proportion of non-alternating native suffixes are diminutive derivatives. Loan words with disharmonic suffixation can be categorised into three groups: the type of *lejmol* as discussed by Nádasy (2008) and Kertész (2003), the type of *balek* mentioned by Abondolo (1988) and the third type of *spejz*, which, to my best knowledge, is first described in my dissertation. These three groups are structurally homogeneous to a varying degree, however, it is true for all of them that their disharmonic suffixation is closely linked to the semantic-stylistic properties of these words.

3.4. Diachrony of variability

In the last chapter of the dissertation an attempt is made to identify factors that played a crucial role in forming the “zone of variation” of BH. It is argued that the stronger front suffixation of words ending with N(N) borrowed in the recent centuries cannot be explained with the differentiation of loan words and native vocabulary, but with strong **analogical** effects of certain elements of the native vocabulary. In my opinion these analogical forces can be connected to the **non-phonological factors** described in Chapter 6.

My assumption is that the suffixation of mixed-vowel root types that had been unknown in the native vocabulary was primarily influenced by native **compounds**. The native vocabulary did not contain roots with back+front (e.g. *kajüt, sofőr*), front+back (e.g. *amőba, nüansz*), back+e (e.g. *modern, projekt*) or back+N+N (e.g. *bakelit, Tahiti*) vowels, thus suffixation of these words was affected by the analogy of compounds with similar vowel structure. The analogical effect of compounds may have had a weaker effect on the suffixation of loan words that belonged to native root types, that is, words ending with *é* and *i/i*. Naturally, native roots ending with *é* and *i/i* (e.g. *fazék, papír*) had an effect on loan words ending with *e* and NN, while this effect could be weaker in accordance with the lesser degree of similarity. It is the interaction of these two effects that underlies vacillation, its type-specific degree and the type-specific allomorph-dominance.

The results of the survey of the synchronic variation also support this hypothesis. Morphological complexity and suffixation of morphological complex elements may dissociate in synchrony too,¹⁰ probably as a result of analogical effects; the effect of the formal features of compounds of foreign origin on suffixation can be also observed in synchrony. Considering the analogy of compounds an important factor of the zone of variation not only the Height and Count Effect can be explained but also factors

¹⁰ See Chapter 6.1.3. of the dissertation.

influencing the suffixation in smaller groups of words, which are phonologically unmotivated, therefore need analogical explanation.¹¹

Another important analogical effect is based on the connection of disharmony with informal style and of harmony with formal style, which in my opinion is quite significant in harmonic suffixation. The source of this connection is in the different suffixation tendencies of dialects using and lacking the *ĕ* phoneme. The back suffixation of the loan words usually pronounced with *ĕ* in “*ĕ* dialects”, which was motivated by the similarity of *ĕ* and *é*, invoked the association of ignorance or informality in the speakers of the “*ĕ*-lacking” standard dialect. The speakers of the standard used front suffixes for mixed-vowel loan words linked to culture (that is, the majority of loan words), while the back suffixation became dominant in “dialectal” words.

The changes in BH occurring in the recent centuries are different and weaker than previously assumed. The whole system of harmony did not undergo change, only the proportion of words for which front suffixation is used has increased in the vocabulary. However, it is probably not the result of some fundamental changes in the system of harmony; it is more likely that an extensive influx of mixed-vowel loan words into Hungarian gave rise to new types of roots for which the speakers could not rely on clear-cut rules. It is my assumption that this did not result in the emergence of new suffixation procedures, rather certain procedures were used for the members of new categories inadequately.

In my opinion, the detailed analysis of the data makes it evident that the models of BH are generally more regular than the competence of the speakers is. On the other hand, the strongly variable area of BH is not the realm of chaos, but can be characterized by well-defined subregularities that are part of linguistic competence just as much as the “strong” rules without any exceptions. Thus, models developed so far viewed BH as a more regular and in other respects as a more chaotic phenomenon than it actually is. I believe that one of the most significant results of my work is that in BH, and maybe in other problematic areas of phonological description and theory, non-

¹¹ See Chapter 7.3. of the dissertation.

phonological factors may play a much greater role than it is generally postulated by "rationally biased" and rule-oriented linguists.

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4. Relevant publication

- Szinkrón és diakrón szempontok az előlségi harmónia variabilitásának feltárásához és értelmezéséhez. (= Synchorinc and diachronic aspects of the investigation and interpretation of Hungarian backness harmony.) In: É. Kiss Katalin – Hegedűs Atilla (eds): *Nyelvelmélet és dialektológia 2*. PPKE BTK. Piliscsaba. 66–81.