Morphology causing nonuniformity in Hungarian backness harmony

Péter Rebrus[1,2] ⟨rebrus@nytud.hu⟩, Péter Szigetvári[2] ⟨szigetvari@elte.hu⟩, Miklós Törkenczy[2,1] ⟨tork@nytud.hu⟩
1: HUN-REN Hungarian Research Centre for Linguistics, 2: Eötvös Loránd University, Budapest

Stem-controlled vowel harmony is typically analysed as a phonological phenomenon: the quality of the target suffix vowels is determined on the basis of the quality of the trigger stem vowel(s). In a representational model this is because, by harmony, the harmonic features of stem vowel(s) appear on suffix vowel(s), too. As a result, suffix vowels are expected to behave in a *uniform* manner: different affixes should harmonise in the same way when attached to stems of the same harmonic class (Hulst 2018). For instance, in Hungarian, where the front/back quality of the stem vowel(s) determines the quality of the suffix vowel(s) (Siptár & Törkenczy 2000), this behaviour is assumed to apply consistently: if a stem selects the front/back alternant of one alternating suffix, it will consistently select the same alternant of another alternating suffix, too. In this paper we discuss and strive to explain a vexing violation of this uniformity of harmony, the divergent behaviour of vowel-initial and consonant-initial alternating suffixes, which is usually unnoticed and unanalysed in the relevant literature.

This nonuniformity is observed in the suffixation of harmonically vacillating stems (cf. Forró 2013) whose stable suffix-internal vowel vacillates in accordance with the vocalism of the stem (1b) but whose suffix-initial (linking) vowel may be consistently back, as in stem class (1i), or consistently front, as in stem class (1ii) in addition to the expected vacillation, as in stem class (1iii).

(1) Nonuniformity in linking vowels: suspension of vacillation in backness

	a.linking vowels (backness by stem)			b.suffix-internal vowels (vacillating)		
	PL	**POSS.1SG**		**DAT**	**ALL**	
i. ‘pal’	*haver-**o**-k*	*haver-**o**-m*	etc.	*haver-nak/nek*	*haver-hoz/hez*	etc.
ii. ‘partner’	*partner-**e**-k*	*partner-**e**-m*	etc.	*partner-nak/nek*	*partner-hoz/hez*	etc.
iii. ‘gravel’	*šóder-**o**/**e**-k*	*šóder-**o**/**e**-m*	etc.	*šóder-nak/nek*	*šóder-hoz/hez*	etc.

Linking vowels are underdetermined by vowel harmony in other cases, too. Although vowel harmony determines the backness of linking vowels, their height can be mid (*o* or *ö*) or low (*a* or *e*) stem specifically (Szentgyörgyi 1999), as in (2a), while the stable vowel within the suffix is consistently either mid or low, as in (2b). Note that we here assume that rounding harmony automatically decides between *-hez* and *-höz*.

(2) Stem classes and the height of linking vowels

	a. linking Vs (height by stem)			b. sfx-internal Vs (height by suffix)		
	PL	**ACC**		**DAT**	**ALL**	
-o- ‘member’	*tag-**o**-k*	*tag-**o**-t*	etc.	*tag-n**a**k*	*tag-h**o**z*	etc.
-a- ‘branch’	*ág-**a**-k*	*ág-**a**-t*	etc.	*ág-n**a**k*	*ág-h**o**z*	etc.
-o/a- ‘happy’	*boldog-**o**/**a**-k*	*boldog-**o**/**a**-t*	etc.	*boldog-n**a**k*	*boldog-h**o**z*	etc.
-ö- ‘clod’	*rög-**ö**-k*	*rög-**ö**-t*	etc.	*rög-n**e**k*	*rög-h**ö**z*	etc.
-e- ‘nail’	*sög-**e**-k*	*sög-**e**-t*	etc.	*sög-n**e**k*	*sög-h**ö**z*	etc.
-ö/e- ‘joy’	*öröm-**ö**/**e**-k*	*öröm-**ö**/**e**-t*	etc.	*öröm-n**e**k*	*öröm-h**ö**z*	etc.

Thus the quality of linking vowels is not predictable from the sound shape of stems: it depends on lexical properties of groups (e.g., syntactic category or semantic subcategories within) or individual stems (exceptions). This justifies considering it morphological. In contrast, the harmonic class of a stem, defined by the set of vowels that can follow it in the

appropriate *suffix* alternant (back (B), front (F), or vacillating (B/F)), is largely predictable from the vocalism of the stem, thus is essentially phonological.

To explain why there is a difference in the behaviour of linking vowels and stable suffix vowels, we posit two systems: harmonising suffix vowels are subject to *phonological* constraints (vowel harmony). Linking vowels, on the other hand, are also controlled by *morphological* constraints (as they function as thematic vowels specific to stem classes). These systems are in a subsumptive relation: morphology (the quality of the linking vowel) never contradicts phonology (harmony), but it can make more specific requirements for the backness, as in (1), and/or the height of the linking vowel, as in (2), but not for stem-internal vowels. This produces (almost) all potential combinations for stem specifications (thematic vowel + harmonic class). No stem type exists with specifications eB, öB, aF or oF because the thematic vowel cannot contradict the front/back value dictated by the harmonic class.

(3) Stem types: thematic vowel + harmonic class

Harmony → Thematic V ↓	Back (B)	Front (F)	Vacillating (B/F)
Mid -o- or -ö-	**oB** *tag-o-k, tag-nak*	**öF** *rög-ö-k, rög-nek*	**oeBF, oBF** *šóder-o/e-k, šóder-nak/nek; haver-o-k, haver-nak/nek*
Low -a- or -e-	**aB** *ág-a-k, ág-nak*	**eF** *sög-e-k, sög-nek vég-e-k, vég-nek*	**aeBF, aBF, eBF** *pozitív-a/e-k, pozitív-nak/nek konkrét-a-k, konkrét-nak/nek partner-e-k, partner-nak/nek*
Vacillating -o/a- or -ö/e-	**oaB** *boldog-o/a-k, -nak*	**öeF** *öröm-ö/e-k, -nek*	**oaeBF** *agiliš-o/a/e-k, agiliš-nak/nek*

A further fact also supports the two-system model. There are suffixes that have both vowel-initial and consonant-initial allomorphs. Since the former are governed by the morphological system and the latter only by the harmonic system, when a harmonically vacillating stem also permits both kinds of allomorphs, the result is massive asymmetry: e.g., POSS.3PL: *partner-juk/jük* (cf. *partner-nak/nek*) but *partner-ük/*uk* (cf. *partner-e/*o-k*), *haver-juk/jük* (cf. *haver-nak/nek*) but *haver-uk/*ük* (cf. *haver-o/*e-k*) (Rebrus et al. 2017).

It has been noted in the literature (cf. Kiparsky 2024) that vowel harmony can operate differentially (in direction, type of harmony, opacity, etc) depending on the phonological visibility of morphological domains. It is not surprising then that uniformity *can* be violated. However, in our case the difference in harmony (the loss of phonologically motivated vacillation) cannot be attributed to the effect of morphological domains. It is similar to differences between co-phonologies where some constraints only apply in the subset co-phonology and some are effective in both the subset and the superset phonologies (e.g., Mester & Itô 1996, 2008) However, here the superset system is phonological and the subset system is morphological, the latter restricting the range of possibilities permitted by the former.

References: Orsolya **Forró. 2013.** Ingadozás a magyar elölségi harmóniában. PhD diss. Pázmány Péter Catholic Univ. ♢ Harry van der **Hulst. 2018.** *Asymmetries in vowel harmony. A representational account.* OUP. ♢ Junko **Itô &** R. Armin **Mester. 1996.** Japanese phonology. In John A. Goldsmith (ed.), *The Handbook of Phonological Theory.* Blackwell. 817–838. ♢ **Itô & Mester. 2008.** Lexical classes in phonology. In: Shigeru Miyagawa & Mamoru Saito (eds.), *Handbook of Japanese Linguistics*, OUP. 84-106. ♢ Paul **Kiparsky. 2024.** The Morphology of Bidirectional Vowel Harmony. OCP21, Leipzig, 14–16 Feb. 2024. ♢ Péter **Rebrus,** Péter **Szigetvári** & Miklós **Törkenczy. 2017.** Asymmetric variation. In: Geoff Lindsey & Andrew Nevins (eds.), *Sonic signatures.* John Benjamins. 163–187. ♢ Péter **Siptár** & Miklós **Törkenczy. 2000.** *The Phonology of Hungarian*. OUP. ♢ Szilárd **Szentgyörgyi. 1999.** Lowering: The Interaction of Phonology and Morphology in Hungarian. PhD diss., Szeged.