Transparency and lexical strata

Péter Rebrus <rebrus@nytud.hu>, Péter Szigetvári <szigetvari@elte.hu>, Miklós Törkenczy <tork@nytud.hu>

Hungarian backness harmony (HBH) is known to be variable (and stochastic): some stems whose back-vowelled syllable (B) is followed by a final syllable with a neutral vowel (N), [BN] stems, may show vacillation, i.e., may take either a back or a front suffix alternant (with different probabilities; e.g., fotɛl-**ok**/-**ɛk** 'armchair-PL'). In addition to phonologically natural factors this variation is also conditioned by phonologically unnatural ones, such as the quality and number of the stem-final consonants (Hayes *et al*. 2009). In this paper we explore a further phonologically unnatural condition on variation in HBH, specifically the role of lexical strata in the (degree of) transparency of neutral vowels.

HBH means the agreement of the frontness/backness of the stem and the suffix vowels. The neutral vowels (i iː eː ɛ) are transparent, but subject to the **Height Effect** (Hayes & Cziráky Londe 2006): high i and iː are always transparent (e.g., forint-**ok** 'florin-PL', pɒpiːr-**ok** 'paper-PL'), mid eː may be transparent (e.g., somseːd-**ok** 'neighbour-PL') and may induce vacillation (e.g., sloveːn-**ok**/-**ɛk** 'Slovenian-PL') depending on the stem, while low ɛ generally induces vacillation (e.g., fotɛl-**ok**/-**ɛk** 'armchair-PL'). That is, there is a transparency hierarchy from high to low front unrounded vowels: i(ː) > eː > ɛ. HBH is also subject to **Harmonic Stability**, according to which the harmonic behaviour of a suffixed form is identical to that of its root (e.g., haːz-nɒk 'house-DAT', haːz-i-nɒk 'house-ADJZ-DAT', baːzɛl-nɒk/nɛk 'Basel-DAT', baːzɛl-i-nɒk/nɛk 'Basel-ADJZ-DAT').

	[Bi(ː)]	[Beː]		[Bɛ]
transparency of N	+	+	±	±
vacillation	no		yes	
subgroups	no		yes	

In HBH, the harmonic behaviour of [BN] stems is lexically conditioned: the degree of transparency is different between subgroups of items whose vocalic makeup is identical. The classes in which vacillation occurs differ from one another in this respect. In the class [Beː], the choice between back (+) vs. vacillating (±) behaviour is based on the lexical class of the root: (a) words of the **familiar stratum** (non-recent loans and words of Finno-Ugric origin) vs. (b) **recent loans.** The N vowel eː is fully transparent in familiar words (e.g., somseːd), but recent loan [Beː] stems (e.g., sloveːn) vacillate. These two subclasses (strata) of [Beː] stems contain an approximately equal number of roots. By contrast, about 95% of [Bɛ] stems are recent loanwords. The remaining items in this group are familiar words and tend to get back suffixes, with little vacillation. Thus they behave like familiar [Beː] stems.

| Lexical classes | high N | non-high N | |
	[Bi(ː)]	[Beː]	[Bɛ]
a. familiar stratum	+	+	(few: +)
b. recent loans		±	±

The Height Effect (usually assumed to be phonetically motivated, cf. Beňuš 2005) displayed by the two non-high N vowels thus follows from the difference between the properties of the lexical subclasses of [Eː] and [Bɛ] words.

We now face the following problem: why do practically no *loan* [Bi(ː)] stems show vacillation (e.g., mobi̱l-**o**k 'cell-phone-PL')? If the two lexical subclasses we have identified for [Beː] and [Bɛ] stems influence whether a stem vacillates or not, why do we not find this influence in [Bi(ː)] stems too? Beňuš (2005) has a phonetically-grounded proposal for the cross-linguistics recurrence of the height effect. Here we offer a systemic explanation in Hungarian for the difference between the behaviour of high vs. non-high neutral vowels. We argue that the complete transparency of i/iː in [Bi(ː)] stems is motivated by a requirement that morphologically simplex and complex stems should be harmonically uniform: i.e., [Bi(ː)] and [[B]i(ː)] both govern back suffixes. This functionally advantageous state of affairs emerges as a product of Harmonic Stability. The harmony constraint (HBH) requires a back suffix for [B] stems and, as a consequence of Harmonic Stability, [[B]i(ː)] stems get back suffixes too. Only if i/iː are transparent in a [Bi(ː)] root will the general pattern of HBH be consistent with Harmonic Stability: [Bi(ː)]B ⇔ [[B]i(ː)]B. There is less/no such pressure on non-high N vowels. Suffixes containing eː typically alternate (e.g., -neːl~-naːl 'ADESS'), therefore their alternant with an eː typically occurs with front stems. Suffixes containing ɛ always alternate (e.g., -nɛk~nɒk 'DAT'), so they are never preceded by back vowels. As a result, the issue of consistency does not even arise with ɛ, and rarely does with eː – hence the possibility of variable transparency.

N-suffix types	high N	non-high N	
	-i(ː)	-eː	-ɛ
i. non-harmonizing	+	(few: +)	−
ii. harmonizing	−	+	+

To sum up: (i) lexical strata have a role in conditioning vacillation and its absence, but (ii) this role is suspended for high neutral vowels, and (iii) this suspension is not accidental, but is a result of the consistency of vowel harmony and Harmonic Stability.

References

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