

Harmony that cannot be represented (abstract)

Hungarian backness harmony (HBH) and especially the behaviour of the neutral vowels (*i, í, é (e)*) is *the* most often analysed aspect of Hungarian phonology. The facts are well-known and all/most authors agree about which facts belong within the purview of HBH. The analyses typically differ in the frameworks adopted (e.g., (some version of) derivational phonology, OT, government/CV-phonology), technical details (e.g. the representation of neutral vowels) and/or the importance a given analysis attributes to a particular aspect or set of facts (e.g. variation, the phonetics of neutral vowels). It is a common feature of most – if not all – analyses of HBH that they have an *abstract representational* bias, i.e., they attribute some characteristics of HBH (e.g., the neutrality of certain vowels) to underlying properties of their representation.

In this paper, we examine some lesser known and hitherto unanalysed phenomena that are problematic for such a representational approach.

(a) Invariant and alternating suffixes with neutral vowels

Invariant suffixes that contain a neutral vowel (henceforward ‘IN suffixes’; e.g., adjective-forming *-i*, verb-forming *-ít*, possessive *-é*, familiar plural *-ék*) behave differently from alternating suffixes that have a neutral vowel in their front alternant (henceforward ‘AN suffixes’; e.g., 3sg. definite present declarative *-i(-ja)*, noun-forming *-ség(-ság)*, possessed *-je/jé(-ja/já)*): the former are transparent while the latter are opaque. This can be seen when a vacillating stem (i.e. one that can be followed by front and back suffix alternants) is suffixed by one of these suffixes (IN or AN) which is further suffixed by a harmonically alternating suffix. In these cases an IN suffix may be followed by the front or the back alternant of a harmonically alternating suffix while the neutral-vowel alternant of an AN suffix may only be followed by the front alternant of a harmonically alternating suffix:

(i) invariant

stem:	<i>martinik-i</i>	<i>martini-s-ít</i>	<i>aszpirin-é</i>	<i>Karint[i]-ék</i>
gloss	‘of Martinique’	‘turn sg into Martini’	‘that of aspirin’	‘K. and his group/relatives’
front suffix:	<i>martinik-i-ek</i>	<i>martini-s-ít-em</i>	<i>aszpirin-é-nek</i>	<i>Karint[i]-ék-nek</i>
back suffix:	<i>martinik-i-ak</i>	<i>martini-s-ít-om</i>	<i>aszpirin-é-nak</i>	<i>Karint[i]-ék-nak</i>
gloss	‘PLUR’	‘1SG.DEF’	‘DAT’	‘DAT’

(ii) alternating

stem	<i>martini-z-i</i> (% <i>martinizza</i>)	<i>alibi-ség</i> (% <i>alibi-ság</i>)	<i>aszpirin-je</i> (% <i>aszpirin-ja</i>)
gloss	‘spill Martini on-DEF’	‘alibi-ness’	‘his/her aspirin’
front suffix:	<i>martini-z-i-tek</i>	<i>alibi-ség-et</i>	<i>aszpirin-jé-nek</i>
no back suffix:	* <i>martini-z-i-tok</i>	* <i>alibi-ség-ot</i>	* <i>aszpirin-jé-nak</i>
gloss	‘2PL’	‘ACC’	‘DAT’

(b) Antiharmony and invariant suffixes in nouns and verbs.

Some polysyllabic Hungarian words are antiharmonic, that is, they exhibit back harmony even though their stem contains two front vowels, e.g., *bénitom, simítom* (‘I paralyse, I smooth’). Such words are all derived by a so-called truncating suffix, which removes the word-final vowel of the stem. Crucially, in the case of such words, the truncated vowel is back: *béna, sima* (‘lame, smooth’). This has led analysts to posit some floating backness that characterizes these stems even in the absence of the stem-final back vowel. It is this underlying backness that triggers the harmony in the derived, bisyllabic forms, although the stem does not contain any back vowel on the surface: *bénít, simít* (‘paralyse, smooth_v’).

There are reasons to be suspicious of this analysis though. All polysyllabic antiharmonic stems are verbs. There exist nominal truncating suffixes, too, but the polysyllabic nouns derived by them are never antiharmonic, e.g., *Tibor* > *Tibi* (name, dim.) but *Tibinek* not **Tibinak* (DAT). What is more, verbs that are derived from a nominal stem also lose their antiharmonicity, even if their nominal stem was derived by a truncating suffix from a stem with “floating backness”, e.g., *sima* > *simogat* > *simi* (n) > *simiz*, but **simizom* (‘smooth_v, caress, caressing+DIM, caress+dim., I caress+DIM).

(iii) ‘transparent’ invariant truncating suffixes (-*ít*, -*int*)

stem (adjective):	<i>béna</i>	<i>sima</i>	AND	<i>puha</i>
gloss	‘paralysed (Adj)’	‘smooth (Adj)’		‘soft (Adj)’
verb+back suffix:	<i>bén-ít-om</i>	<i>sim-ít-om</i>		<i>puh-ít-om</i>
verb+front suffix:	* <i>bén-ít-em</i>	* <i>sim-ít-em</i>		* <i>puh-ít-em</i>
gloss	‘paralyse-1SG.DEF’	‘smooth-1SG.DEF’		‘soften-1SG.DEF’

(iv) controversially transparent invariant truncating suffixes (diminutive -*i*, -*ci*, -*csi*)

stem (noun/verb):	<i>simogat</i>	<i>Tibor</i>	BUT	<i>szórakoz-</i>	<i>Nándor</i>
gloss	‘to caress’	<name>		‘to amuse oneself’	<name>
dimin.+back suffix:	* <i>sim-i-z-om</i>	* <i>Tib-i-nak</i>		<i>szor-csi-z-ok</i>	<i>Nánd-i-nak</i>
dimin.+front suffix:	<i>sim-i-z-em</i>	<i>Tib-i-nek</i>		* <i>szor-csi-z-ek</i>	* <i>Nánd-i-nek</i>
gloss	‘caress-DIM-1SG.DEF’	‘id.-DIM-DAT’		‘id.-DIM-1SG.INDEF’	‘id.-DIM-DAT’

It seems then that IN suffixes behave in two ways when they are added to “covertly mixed” antiharmonic stems: they are transparent to antiharmony if they form verbs, but are opaque to antiharmony when they form nouns. Curiously, the same suffixes are transparent to “regular” backness harmony triggered by an overtly back vowel.

Phenomena like (a) and (b) are problematic for an abstract representational approach, which encodes the transparency of neutral vowels locally in their underlying representation, because, on the one hand, it leads to a proliferation of arbitrarily delimited underlying vowel classes and, on the other, it would require that one and the same suffix should be assigned to more than one of these representationally different classes (i.e. the same suffix should be represented in more than one way).

To understand phenomenon (a) we need a theoretical framework that is sensitive to the distribution of the surface vowels in a sequence of suffixes: after an alternating suffix – even when it takes the alternant containing a neutral vowel – subsequent alternating suffixes must agree in backness, therefore sequences violating this pattern are impossible (see (ii)). No such constraint holds for non-alternating suffixes containing a neutral vowel, since these may be followed by either front- or back-vowelled suffixes (see (i)).

The same type of explanation can be extended to phenomenon (b), where the divergent behaviour of words containing a type (iii) suffix vs. a type (iv) suffix cannot be explained by the transparent vs. non-transparent distinction. We may get closer to an understanding of phenomenon (b) by taking the usage of the forms containing these suffixes into account. In the majority of cases (with a few exceptions), the words containing a verbal type (iii) suffix after a neutral stem vowel trigger back harmony, but no such distributional asymmetry can be observed in the diminutive forms in (iv): these forms get only front-vowelled suffixes, similarly to other other forms containing only neutral vowels. The framework should therefore be able to connect phenomena (a) and (b) to the behaviour (that is, the patterns exhibited by the usage) of other words having a similar form or function.