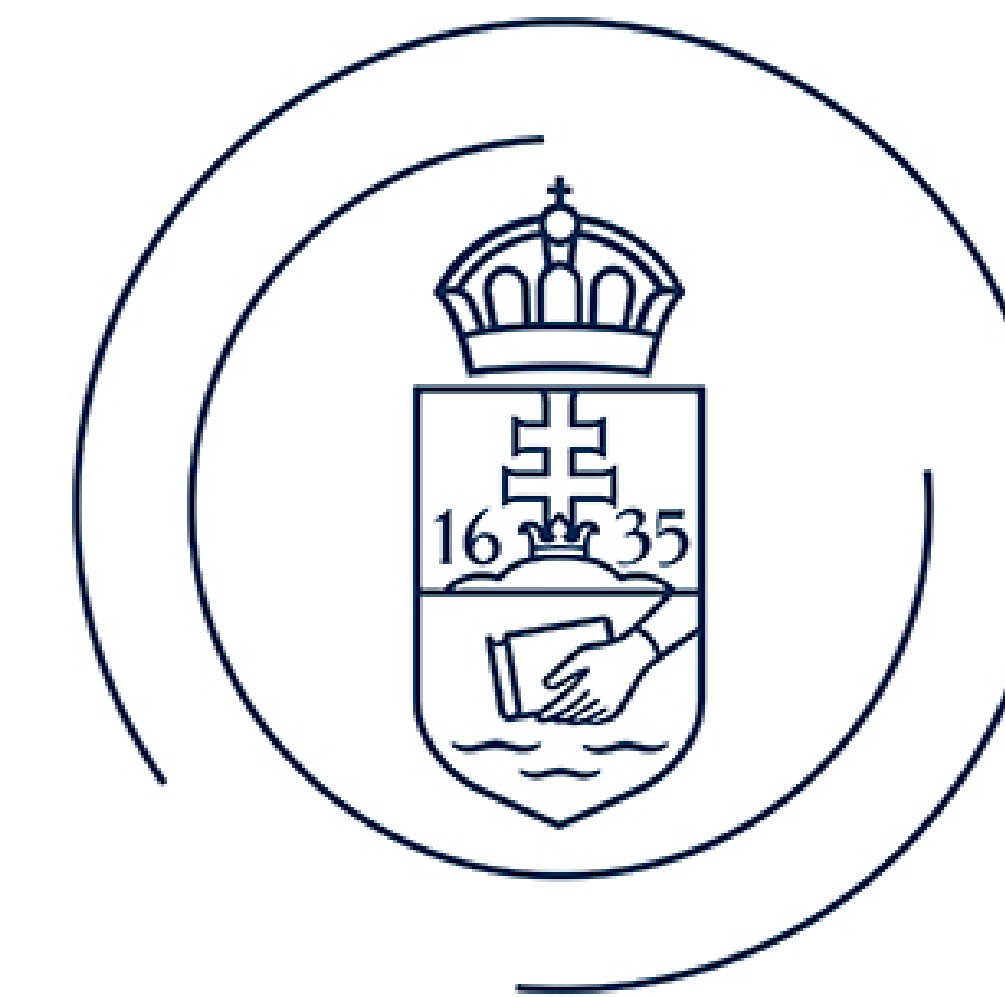




How morphological is Hungarian vowel harmony?

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Aspects of morphologization

- (a) **paradigm classes/lexical conditioning:** phonologically arbitrary or underdetermined sets of words associated with disparate sets of phonological behaviour (§§1–2)
- (b) **paradigm-based regularities:** consistency of behaviour within paradigms (uniformity) overriding otherwise applicable phonological patterns (§3)

1 “Thematic” vowels

1.1 Back stems

(1) mid (-o-) vs. low (-a-) thematic (suffix-initial) vowels

Roots	PL	1SG.POSS	2SG.POSS	DISTR	ADJZ
pár	pár- ok	pár- om	pár- od	pár- onként	pár- os
gól	gól- ok	gól- om	gól- od	gól- onként	gól- os
vár	vár- ak	vár- am	vár- ad	vár- anként	vár- as
ól	ól- ak	ól- am	ól- ad	ól- anként	ól- as

Lexical alternations by thematic vowels

- -o- stems: mid back vowel (productive for noun roots)
- -a- stems: low back vowel (a.k.a. lowering stems, not productive for noun roots)

(2) -o- stem and -a- stem paradigms: phonologically unrelated but paradigmatically associated behaviour

	PL	ACC	3SG.POSS	SUPE
-o- stem	pár- ok	pár- t	pár- ja	pár- on
	gól- ok	gól- t	gól- ja	gól- on
-a- stem	vár- ak	vár- at	vár- a	vár- on
	ól- ak	ól- at	ól- a	ól- on

Suffix alternants by paradigm class: -a- vs. -o-

- vowel quality: low ~ mid thematic vowels
- vowel ~ zero in ACC (V + j, r, l, n, ŋ, s, z, ʃ, ʒ-final stems)
- zero ~ j in 3rd person POSS and plural possessee forms
- no difference in non-thematic suffix vowels (e.g., in SUPE)

These alternations are **paradigmatically associated** but essentially **independent phonologically**. Abstract phonological treatments (abstract vowels, floating features, diacritics, etc.) are *ad hoc* and do not cover all cases of lowering phenomena (see Rebrus & Polgárdi 1997, Siptár & Törkenczy 2000).

1.2 Front stems — rounding harmony

1.2.1 Front rounded vowels

(3) -ö- stems and -e- stems

	PL	ACC	3SG.POSS	SUPE
-ö- stem	sül- ök	sül- t	sül- je	sül- ön
	kúr- ök	kúr- t	kúr- je	kúr- ön
-e- stem	fül- ek	fül- et	fül- e	fül- ön
	öl- ek	öl- et	öl- e	öl- ön

- -ö- stems: rounded front mid vowel (productive for nouns)
- -e- stems: unrounded front mid-low vowel (not productive for nouns)

1.2.2 Front unrounded vowels

(4) more than one -e- stem class

	PL	ACC	3SG.POSS	SUPE
-e- stem-1 (rounded)	fül- ek	fül- et	fül- e	fül- ön
-e- stem-2 (unrounded)	jel- ek	jel- et	jel- e	jel- en
-e- stem-3 (unrounded)	gél- ek	gél- t	gél- je	gél- en

-e- stem-1 class: rounding harmony

- is suspended with thematic vowels (PL, ACC, etc.: *fül-ek*, *fül-et*)
- prevails otherwise in SUPE, ALL, etc.: *fül-ön*, *fül-höz*

So currently we have 6 paradigm classes labelled by their thematic vowels (cf. Rebrus & al. to appear)

2 Front/back harmony

2.1 Antiharmony as paradigm classes

(5) front- and back-harmonizing roots

Harmonic classes	Paradigm classes	PL	1PL.POSS	DAT	ALL
front (harmonic)	-e- stem	hír- ek	hír- ünk	hír- nek	hír- hez
		szél- ek	szél- ünk	szél- nek	szél- hez
		kéj- ek	kéj- ünk	kéj- nek	kéj- hez
back (antiharmonic)	-o- stem	sír- ok	sír- unk	sír- nak	sír- hoz
		cél- ok	cél- unk	cél- nak	cél- hoz
		díj- ak	díj- unk	díj- nak	díj- hoz
	-a- stem	hég- ak	hég- unk	hég- nak	hég- hoz

Lexically arbitrary classes with phonological restrictions on membership: roots in the antiharmonic (back) class are

- limited to front unrounded non-low vowels (*i* [i], *í* [i:], *é* [e:])
- limited to monosyllables (monomorphemic polysyllabic roots are harmonic)

2.2 Transparency: “mixed” [...BN(N)] root classes

(6) back-harmonizing and vacillating classes of harmonically mixed roots

Harmonic classes	Paradigm classes	PL	DAT
front/back (optionally transparent)	-e/o- stem	agilis- ek/ok	agilis- nek/nak
		karél- ek/ok	karél- nek/nak
		burek- ek/ok	burek- nek/nak
front (nontransparent)	-e- stem	partner- ek	partner- nek
		majonéz- ek	majonéz- nek
back (obligatorily transparent)	-o- stem	április- ok	április- nak
		acél- ok	acél- nak
	-a- stem	matek- ok	matek- nak
		fazék- ak	fazék- nak

Restrictions on class membership

- Phonological: vacillating roots are limited to mixed roots of the form
 - [...BN] where N ≠ *i*/*í* [i(:)]
 - [...BNN] where N ≠ *e* [ε]
 i.e., the required number and quality of N-vowels cannot be circumscribed in a uniform way
- “Semantic”:
- back-harmonizing mixed roots are limited to **familiar roots** that are
 - * highly frequent (e.g., *április*, *konkrét*), or
 - * not recent loans (e.g., *acél*, *kastély*, *április*), or
 - * diminutive/familiar in their usage (e.g., *matek*, *kolesz*, *fater*, *muter*)
- front-harmonizing mixed roots are limited to **cultural roots** that are recent loans, educated in their usage (e.g., *partner*, *koncert*, *oxigén*)

2.3 Harmonic uncertainty: back/front

Zones of variation (Height Effect & Count Effect, Hayes & Czirák Londe 2006): [N], [...BN(N)]; factors limiting uncertainty:

- phonological: quality/number of the root-final neutral vowels
- “semantic”: familiar roots and cultural roots vs. other (plain) loans
- morphological: **Harmonic Uniformity** (§3)

(7) Harmonic (paradigmatic) class membership: phonological factors

Harmonic behaviour	Back: class -o- (or -a-)	Front: class -e-	F/B vacillation: class -e/o-
no variation	[...B], [...Bi(:)]	[...FN(N)], [NN(N)], [BNe]	
lexical variation (antiharmony)	[N]	[N]	
lex. var. & vacillation (transparency)	[...Be], [...Be:], [...BNi(:)], [...BNe(:)]	[...Be]	[...Be], [...Be:], [...BNi(:)], [...BNe(:)]

(8) Harmonic (paradigmatic) class membership: “semantic” factors

Stem phonology	Back: class -o- (or -a-) (obl.ly transparent)	Front: class -e- (obl.ly opaque)	F/B vacillation: class -e/o- (opt.ly transparent)
[Be]	familiar: <i>matek</i>	cultural: <i>partner</i>	plain: <i>hotel</i>
[Be:]	familiar: <i>acél</i>	cultural: <i>majonéz</i>	plain: <i>karél</i>
[BNi(:)], [BNe(:)]	familiar: <i>április</i>	cultural: <i>oxigén</i>	plain: <i>agilis</i>

3 Harmonic Uniformity

(9) Morphological limitation of harmonic class membership

Harmonic Uniformity: the harmonic property (F, B, or F/B) of a root is uniform throughout the paradigm

Two consequences:

- Harmonic Uniformity of **suffixes:** all the harmonically alternating suffixes in the paradigm of a root/stem have identical harmonic properties: F, B, or F/B
- Harmonic Uniformity of **forms:** a suffixed stem belongs to the same harmonic class (F, B, or F/B) as its root

This morphological effect overrides otherwise applicable phonological patterns (variation due to the Height Effect and the Count Effect) and thus creates otherwise nonoccurring harmonic patterns:

- [[N]N]B or [[N]N]F, when always [NN]F
- [[BN]N]B/*F, [[BN]N]F/*B, when typically [BNN]B/F

suffixed forms	B	F	B/F
roots			
B: híd- nak	híd- i-nak	–	–
acél- nak	acél- é-nak	–	–
F: víz- nek	–	víz- i-nak	–
partner- nek	–	partner- é-nak	–
F/B: sóder- nak/nek	–	–	sóder- é-nak/nek
Athén- nak/nek	–	–	athén- i-nak/nek

But Harmonic Uniformity does not hold for strictly locally determined alternations:

- rounding harmony (phonologically local)

suffixed forms	front rounded	front unrounded
roots		
front rounded (tök- höz)	tök- ünk-höz	tök- é-hez
front unrounded (pék- hez)	pék- ünk-höz	pék- jé-hez

- some paradigm classes (morphologically local)

suffixed forms	-o- class	-a- class
roots		
-o- class (jog- ok , jog- ot)	jog- ász-ok	jog- uk-at
-a- class (fog- ak , fog- at)	fog- ász-ok	fog- uk-at

References

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Glosses

acél ‘steel’, *agilis* ‘agile’, *április* ‘April’, *Athén* ‘Athens’, *burek* id., *cél* ‘goal’, *díj* ‘prize’, *é* ‘posn’, *fater* ‘dad’, *fazék* ‘pot’, *fog* ‘tooth’, *fogász* ‘dentist’, *fül* ‘ear’, *gél* ‘gel’, *gól* ‘goal’, *hég* ‘crust’, *hid* ‘bridge’, *hír* ‘news’, *hotel* id., *-i* ‘adjz’, *jel* ‘sign’, *jog* ‘law’, *jogász* ‘lawyer’, *karél* ‘Karelian’, *kéj* ‘lust’, *kolesz* ‘dorm’, *koncert* ‘concert’, *konkrét* ‘factual’, *kür* ‘free skating’, *majonéz* ‘mayonnaise’, *matek* ‘maths’, *muter* ‘mum’, *-nak/nek* ‘dat’, *ól* ‘hut’, *ól* ‘lap’, *oxigén* ‘oxygen’, *pár* ‘pair’, *partner* id., *pék* ‘baker’, *sír* ‘grave’, *sóder* ‘gravel’, *sül* ‘porcupine’, *szél* ‘edge’, *tök* ‘pumpkin’, *vár* ‘castle’, *víz* ‘water’

paradigm classes



<http://budling.hu/~rebrus/AMP2022/amp2022-poster-paradigm-table.pdf>

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