Vacillation and lexical variation in Hungarian front/back harmony*

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* This work has been supported by NKFI #119863 “Experimental and theoretical investigation of vowel harmony patterns”

1 front/back harmony (HBH)

- stem-controlled suffix harmony

	front (F)		back (B)
	neutral (N)	round (R)	
high	i, iː	y, yː	u, uː
mid	eː	ø, øː	o, oː
low	ɛ		ɑ, aː

[..F]F ʃør-yŋk ʃør-nɛk ‘beer-POSS1PL, DAT’

[..B]B bor-uŋk bor-nɑk ‘wine-POSS1PL, DAT’

2 neutrality

- root phonotactics: free combination [BN], [NB]
- transparency: [BN]B
- suffix invariance [B]N ([F]N)

3 transparency: variation

- the context [...BN] _ is harmonically ambiguous ⇒ *vacillation & lexical variation*

		vacillation		
		no	yes	
lexical variation	[...BN] _	F		kontsɛrt-**ɛ**k ‘concert-PL’
			F/B	fotɛl-**ɛ**k/**o**k ‘armchair-PL’
		B		hɑvɛr-**o**k ‘friend-PL’

- The **Height Effect (HE)**: gradience in neutrality/transparency: **i(:) > eː > ɛ** (Hayes & Londe 2006)

transparency (of N vowels) decreases from high to low

high vowels **i(:)** are always transparent: **[Bi(:)]B**
forint-ok ‘HUF-PL’, pɑpiːr-ok ‘paper-PL ’

mid **eː** may be transparent or vacillating: **[Beː]B** or **[Beː]F/B**
somseːd-ok ‘neighbour-PL ’, sloveːn-ɛk/ok ‘Slovenian-PL ’

low **ɛ** typically vacillates: **[Bɛ]F/B**
fotɛl-ɛk/ok ‘armchair-PL ’

lexical variation (# of lexical subclasses) increases from high to low

	[Bi(:)]	[Beː]		[Bɛ]
transparency of N	+	+	±	±
vacillation	–		+	
lexical variation/subclsses	–	+		

- The **Count Effect** (CE): **[BN] > [BNN]**

multiple N vowels decrease transparency

[BN] [Bi(:)]B forint-ok ‘HUF-PL’, pɑpiːr-ok ‘paper-PL’

[BNN] [BNi(:)]F/B sɑlitsil-ɛk/ok ‘salicyl-PL’, bɑkɛlit-ɛk/ok ‘bakelite-PL’

4 suffix invariance

- harmonic vowels do not occur in invariant suffixes
- neutral vowels occur in invariant & alternating suffixes

		invariant (inv)	alternating (alt)
neutral	i(:)	haːz-**i**, føld-**i**	–
	eː	haːz-**eːrt**, føld-**eːrt**	føld-**neːl** (~haːz-naːl)
	ɛ	–	føld-**nɛk** (~haːz-nɑk)
harmonic	B	–	haːz-**roːl** (~føld- røːl)
	R	–	føld-**yŋk** (~haːz- uŋk)

	neutral		
invariant	i(:)	eː	ɛ
	11 <**9**>	9 <**4**>	0

<**bold**=can be followed by further suffixes>

5 transparency in roots & invariance

	[Bi(:)]	[Beː]		[Bɛ]
fully transparent N	yes	yes	no	no
vacillation	no	no	yes	yes
lexical variation / subgroups	NO	YES		YES
invariant N suffixes	YES	YES		NO

Q1 connection between variation in roots & invariance in sfx: influence of multiply suffixed forms [B]N_ on roots [BN]_

6 deriving/motivating the Height Effect

- phonologically irrelevant/performance effect (Vago 1980, Siptár & Törkenczy 1999)
- phonetically grounded: (co)articulation (Beňuš 2005)
- grammatical but arbitrary (constraint ranking/weighting) (Hayes & Londe 2006, Hayes & al 2009)
- lexical: the transparency of neutral vowels (vacillation) depends on

(i) the distribution of [BN] stems in lexical strata &

(ii) the distribution of neutral vowels in invariable suffixes.

7 “OLD” vs. “NEW”

OLD: “familiar” words (high frequency words, nonrecent loans, words of Finno-Ugric origin) **do not vacillate**

somseːd-nɑk ‘neighbour-DAT’, taːɲeːr-nɑk plate-DAT

NEW recent loans **vacillate**

sloveːn-nɛk/nɑk ‘Slovenian-DAT ’

(reclassification by frequency

‘OLD’ ➡ ‘NEW’ gaːʧeːr-nɛk/nɑk ‘drake-DAT’ <143 tokens>

‘NEW’ ➡ ‘OLD’ koŋkreːt-ɑk ‘specific-PL’ <79690 tokens>

8 lexical classes & the Height Effect

Lexical classes	high N	non-high N	
	[Bi(:)]	[Beː]	[Bɛ]
OLD	transparent	transparent ~50%	–
NEW		vacillating ~50%	vacillating ~100%

✓ **[Beː] vs [Bɛ] roots**

Height Effect follows from the difference of the size and distribution of the lexical classes of OLD and NEW words within [Beː] vs [Bɛ] roots

✗ **[Bi(:)] roots**

Q2 Why do [Bi(:)] roots not show lexical variation and Why do NEW [Bi(:)] stems not show vacillation?

9 Paradigmatic Harmonic Uniformity (PHU)

(Rebrus & Szigetvári 2016, Rebrus & Törkenczy 2017, Rebrus & al. 2017)

harmony of root is preserved in suffixed forms: all the harmonic suffixes have identical harmonic values (F, B or F/B) within the (extended) paradigm of a stem.

in multiply suffixed forms PHU may override harmony: PHU ≫ HE, CE

[B]B	[[B]N]B	compare	[BN]_
haːz-nɑk ‘house-DAT’	haːz-i-nɑk ‘house-ADJZ-DAT’		≈ paːriʒ-nɑk ‘Paris-DAT’
haːz-nɑk ‘house-DAT’	haːz-eː-nɑk ‘house-POSS-DAT’		≠ sloveːn-nɛk/nɑk ‘Slovenian-DAT’
[Bi]B	[[Bi]N]B		[BiN]F/B
mɑdrid-nɑk ‘Madrid-DAT’	mɑdrid-i-nɑk ‘Madrid-ADJZ-DAT’		≠ sɑlitsil-nɛk/nɑk ‘salicyl-DAT’

10 a consequence of PHU

- $[B]N_x$]_ is harmonically unambiguos comp. to $[BN_x]$_

{ $[B]N_x$]B, $[B]B_q$, $[B]B_y$ ... }$_{paradigm}$

{ haːz-eː-nɑk, haːz-roːl, haːz-uŋk, haːz-nɑk ... }

- assumption: analogical influence of the unambiguous pattern on the more ambiguous one

the more $[B]N_x$]_ word forms (types) the more $[BN_x]$_ patterns after $[B]N_x$]_

11 N vowels in multiply suffixed forms

N	suffixable suffix		multiply suffixed forms		reliable [B]N]_ pattern
	inv	alt			
-i(:)	+	–	[B]i]B	*[B]i]F	strong: [B]N]**B**
eː	$+_{few}$	+	[B]eː]B	*[B]eː]F	weak(er) [B]N]**B**
ɛ	–	+	*[B]ɛ]B	*[B]ɛ]F	none

strong reliable pattern suppresses lexical variation (OLD vs NEW class-specific behaviour), but in the absence of such a pattern lexical variation prevails

12 possible extension to the Count Effect

- there is no vacillation in the context [BNɛ]_ in spite of the Count Effect

no reliable pattern for [Bɛ] since *[B]ɛ]B, *[B]ɛ]F

BUT

there is for [Bɛɛ], [Beː ɛ] *[BN]$ɛ_{inv}$]

*[BN]$ɛ_{ialt}$]B *fotɛl-ɛk-nɑk

[BN]$ɛ_{ialt}$]F fotɛl-ɛk-nɛk ‘armchair-PL-DAT’

robust reliable [BN]$ɛ_{ialt}$]F pattern suppresses vacillation

13 problems & questions & further research

- Problems with the Count Effect

there is no reliable multiply suffixed pattern for [Biɛ] roots since *[Bi]$ɛ_{ialt}$] (thus *[Bi]$ɛ_{ialt}$]F, *[Bi]$ɛ_{ialt}$]B). This predicts vacillation, as there is nothing to suppress vacillation. BUT: [BNɛ] do not vacillate

How can vacillation by the Count Effect exist at all for [Bii] roots when the robust reliable pattern is [Bi]i]B without vacillation (due to PHU)? mɑdrid-i-nɑk/*nɛk

- Quantification, further research

How to measure the robustness of a pattern; ongoing corpus study (*Szószablya Webcorpus v0.9.* 2014) [http://szotar.mokk.bme.hu/szoszablya/searchq.php] 541 million tokens of words

14 references

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