

Harmony that cannot be represented

♡ László Kálmán, ♡ Péter Rebrus, ◇ Péter Szigetvári,
♡◇ Miklós Törkenczy

♡ Research Institute for Linguistics, MTA
◇ Eötvös Loránd University, Budapest
((kalman|rebrus|tork)@nytud.hu|szigetvari@elte.hu)

ICSH10, Lund, 2011-08-26

F/B harmony in Hungarian

- within the “word” domain (not across compound boundary)
- most suffixes have both F and B allomorphs
- vowel alternations:

	SHORT		LONG	
	B	F	B	F
“LOW”	[ɑ]	[ɛ]	[ɑ:]	[e:]
“MID”	[o]	[ø/ɛ]	[o:]	[ø:]
HIGH	[u]	[y]	[u:]	[y:]

(choice between [ø] and [ɛ] depends on roundness harmony)

- no alternation: [i], [i:]
- therefore, the neutral vowels (N) in H are [i] and [i:] (cf. Kiparsky & Pajusalu 2003)
- BUT...

Neutral vowels (N)

Properties associated with neutral vowels cross-linguistically

- (i) no harmonic alternants: [i i:]
- (ii) transparency to harmony: [i i: e: ε]
- (iii) occurrence in mixed stems: [i i: e: ε ø ø: y y:] (trivially, back vowels also all occur in mixed stems)

A further property associated with neutral vowels in Hungarian

- (iv) antiharmony: [i i: e: ε]

(i) No harmonic alternants

[i i:]

- [i:] is not found in any harmonic alternation
- [i] occurs in a single suppletive alternation: [ja|i] ‘def-3sg’

[e:]

- in nonalternating suffixes: [-e:] ‘possessor’, [-e:k] ‘group of’, [-ert] ‘causal-final’ (8 suffixes)
- in alternating suffixes: [-n(a|e):l] ‘adess.’, [-v(a|e):] ‘translat.’, [-ʃ(a|e):g] ‘-ship’ (9 suffixes; +4 because of LVL)

[ɛ]

only in alternating suffixes (50 suffixes); nonalternating in some slightly productive nonconcatenative diminutives: [matʃka] ~ [matʃɛk] ‘cat’, [kalauz] ~ [kal:ɛr] ‘conductor’, [ga:bor] ~ [gabɛs] ‘Gabriel’

(ii) Transparency I: height

- a single [i] or [i:] is always transparent:
[popʃi-r(ɑ|*ε)] 'bum-elat.', [tapi:r-n(ɑ|*ε)k] 'tapir-dat.'
- a single [e:] may be transparent or variable:
[kɑʃte:j-b(ɑ|*ε)] 'castle-illat.', [ta:ɲe:r-(o|ɑ|*ε)k] 'plate-pl.',
[ta:ɲe:r-b(o|?ø):l] '-elat.', [sate:n-b(o|ø):l] 'satin-elat.'
- a single [ε] may be variable or opaque:
[fotεl-b(ɑ|ε)n] 'armchair-iness.', [ha:rεm-b(?ɑ|ε)n] 'harem-iness.',
[okto:bεr-b(?ɑ|ε)n] 'October-iness.'

(ii) Transparency II: count

- a sequence of neutral vowels may variable or opaque:
 [harakiri-n(a|ε)k] 'harakiri-dat.', [klarine:t-t(a|ε)l] 'clarinet-instr.',
 [ate:ne:-v(a|ε)l] 'Athena-instr.',
 [atsetile:n-n(*a|ε)k] 'acetylene-dat.'
- a sequence of neutral vowels with [ε] as last is always opaque:
 [kabinεt-b(*a|ε)n] 'government-iness.' vs.
 [bakεlit-b(o|ø):l] 'bakelite-elat.'

Excursus: truncation

Word final

- [gørbe] 'bent' ~ [gørbyl] 'bend'
[be:kε] 'peace' ~ [be:ki:t] 'pacify'
- [barna] 'brown' ~ [barnul] 'become brown'
[tista] 'clean' ~ [tisti:t] 'cleanse'

Word internal

- [pisok] 'dirt' ~ [piskoʃ] 'dirty' ~ [piski:t] 'make dirty'
- [ʃarok] 'corner' ~ [ʃarkoʃ] 'angular' ~ [ʃarki:t] 'polarize'

Point of interest

$$[NB] \xrightarrow{\text{truncation}} [N-] \xrightarrow{\text{harmony}} [N+?] / [N+N+?]$$

(iii) Mixed stems I

With [i i:] (414 [Bi(:)] stems, 490 [i(:)B] stems)

- frequent in nontruncating stems: [sigor] 'strictness', [tapi:r] 'tapir'
- frequent in truncating stems: [tista] 'clean', [ki:noz] 'torture'

With [e:] (103 [Be:] stems, 83 [e:B] stems)

- frequent in nontruncating stems: [tare:j] 'caruncle', [he:ja] 'hawk'
- rare in truncating stems (2 stems): [be:na] 'lame', [ne:ma] 'mute'

With [ɛ] (197 [Bɛ] stems, 223 [ɛB] stems)

- frequent in nontruncating stems: [haver] 'pal', [teras] 'terrace'
- does not occur in truncating stems

(iii) Mixed stems II

With [ø ø: y y:] (22 [BF] stems, 6 [FB] stems)

- [pøʒo:] 'Peugeot' [ʃofø:r] 'driver', [nyans] 'nuance', [kajyt] 'cabin'
- do not occur in truncating stems

(iv) Antiharmony

Monosyllabic stems with [i i:]

- frequent with F suffixation: [si:v] 'heart', [hit] 'belief'
- frequent with B suffixation (only [i:]!): [si:v] 'to smoke, to draw', [ʒi:r] 'grease'

Monosyllabic stems with [e:]

- frequent with F suffixation: [fe:l] 'to be afraid', [te:l] 'winter'
- rare with B suffixation (2 stems): [tse:l] 'aim, goal', [he:j] 'peel'

Stems with [ɛ]

- frequent with F suffixation: [fɛj] 'head', [tɛs] 'put'
- rare with B suffixation (1 stem): [dɛrɛk-] 'waist' (bound stem of [dɛrɛ:k])

Gradience in neutrality

 $[i \ i:] \gg [e:] \gg [\varepsilon]$

INVARIABLE IN SUFFIX

+ +/− −

TRANSPARENT

+ +/ ~ ~ / −

IN TRUNCATING MIXED STEM

+ 2 −

ANTI-HARMONIC

+ 2 (1)

Alternating vs. nonalternating [i] (and [e:])

[-ja|i] vs. [-i]

- [martiniz] 'spill Martini on' ~
[martiniz(:a|i)] 's/he spills Martini on it' (variation possible) ~
[martinizit(ε|*o)k] 'you-pl. spill Martini on it' (no variation)
([martiniz:a:tok] id.)
- [martinik] 'Martinique' ~
[martiniki] 'from M.' ~
[martinikin(a|ε)k] 'to sg/sb from M.' (variation possible)

[-j(a|ε)] vs. [-e:]

- [haver] 'pal' ~ [haverj(a|ε)] 'his/her pal' ~ [haverje:n(ε|*a)k]
'his/her pal-dat.' (cf. [sutere:n-b(a|ε)n] 'basement-iness.')
- [haverε:] 'that of the pal' ~ [haverε:n(a|ε)k] 'to that of the pal'

A minimal pair

Birds

- [kolibri] 'colibri' ~ [kolibrije:] 'that of the colibri' ~ [kolibrije:v(a|ε)l] 'with that of the colibri' (variation possible)
- [kolibrijε] 'his/her colibri' ~ [kolibrije:v(*a|ε)l] 'with his/her colibri' (no B suffix; but [kolibrija] ~ [kolibrija:val])

Sentences

- Kidobtuk a galamb ketrecét a [kolibrije:v(a|ε)l] együtt.
'we threw the pigeon's pen out together with that of the colibri'
- Kidobtuk a galambját a [kolibrije:v(*a|ε)l] együtt.
'we threw his/her pigeon out together with his/her colibri'

Truncating suffixes

The denominal verb suffix [-i:t]

- [ʃa:rga] 'yellow' ~ [ʃa:rgi:t] 'make yellow' ~ [ʃa:rgi:to:] 'making yellow' (B suffixation)
- [ʃima] 'smooth' ~ [ʃimi:t] 'smoothen' ~ [ʃimi:to:] 'smoothening' (B suffixation)
- [be:na] 'lame' ~ [be:ni:t] 'paralyse' ~ [be:ni:to:] 'paralysing' (B suffixation)

The nickname suffix [-i]

- [ʃa:ra] 'Sarah' ~ [ʃa:ri] 'Sarah-dim.' ~ [ʃa:ri:nɔk] 'to Sarah-dim.' (B suffixation)
- [ʃimon] 'Simon' ~ [ʃimi] 'Simon-dim.' ~ [ʃiminɛk] 'to Simon-dim.' (F suffixation)
- [e:va] 'Eve' ~ [e:vi] 'Eve-dim.' ~ [e:vinɛk] 'to Eve-dim.' (F suffixation)

What's the difference?

Hypothesis 1: the stems are different (cf. Vago 1980)

the [i] of [ʃima] is not the same as the [i] of [ʃimon]

REFUTATION: [ʃima] 'smooth' ~ [ʃimogat] 'caress' ~ [ʃimi]
 'caressing-dim.' ~ [ʃimiz(ɛ|*o)k] 'I caress-dim.'; [tʃiklandoz]
 'tickle' ~ [tʃiki] 'tickling-dim.' ~ [tʃikiz(ɛ|*o)k] 'I tickle-dim.'

Hypothesis 2: the suffixes are different

version 1: [-i:t] has a transparent [i:], [-i] has an opaque [i]

REFUTATION: [ʃa:rinak] ⇒ [-i] must have a transparent [i]

version 2: [-i:t] has an antiharmonic [i:], [-i] has a transparent [i]

REFUTATION: [di:si:tek] 'I decorate' ⇒ [-i:t] must have a
 transparent [i:]

Transparent vs. “semi-transparent”

[-i:t]

transparent: [ʃa:rgi:tɔ:], [ʃimi:tɔ:], [be:nitɔ:], [di:si:tø:]

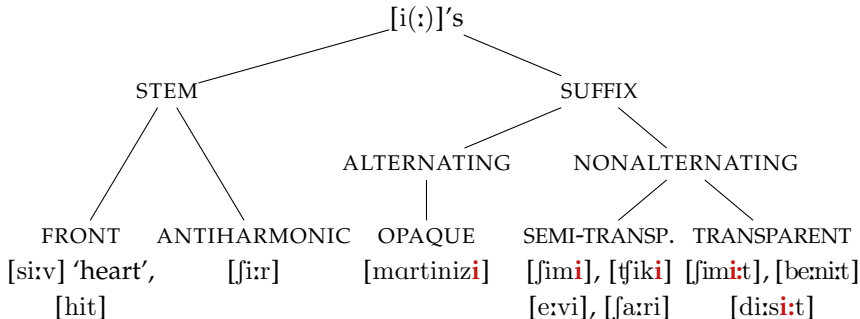
[-i]

“semi-transparent”: [ʃa:riɲk], [ʃimizɛk], [ʃiminɛk], [e:viɲk], [he:diɲk]
 ([hɛdviɡ] ~ [he:di])

	B-	A-	F-
TRANSPARENT	-B	-B	-F
“SEMI-TRANSP.”	-B	-F	-F

Four different [i(:)]'s?

- 1 the antiharmonic [i(:)] of [ʃi:r-ok] 'I cry'
- 2 the front/opaque [i(:)] of [si:v] 'heart', [hit], or [martinizi]
- 3 the transparent [i(:)] of [-i:t]
- 4 the semitransparent [i(:)] of [-i], which is transparent after back, but opaque after "underlyingly" back (but phonetically front) vowels



Even more types?

Consistent/uniform: [-i:t]

does not contribute to the count effect:

[hamiʃ(a|*ɛ)k] ‘fake-pl.’, [hamiʃi:t(o|*ɛ)k] ‘I forge’

Inconsistent/non-uniform: locative [-i]

- transparent (like [-i:t], not semi-transparent like diminutive [-i]):

[(pa:l)uts:aiak] ‘from Pál utca’ ~

[(reʒø:)te:riɛk] ‘from Rezső tér’ ~

[(margit)hidi(a|*ɛ)k] ‘from Margit híd’ (cf. [hi:d] ~ [hidak] ‘bridge~pl.’)

- contributes to the count effect:

[karib] ‘Carib’ ~ [karib(o|*ɛ)k] ‘Caribs’

[karibi] ‘Caribbean’ ~ [karibi(a|ɛ)k] ‘Caribbeans’

References

- Kiparsky, Paul & Karl Pajusalu 2003. Towards a typology of disharmony (<http://www.stanford.edu/~kiparsky/Papers/harmonytypes.new.pdf>)
- Vago, Robert 1980. The Sound Pattern of Hungarian. Georgetown University Press.

This slide show is available at

<http://seas3.elte.hu/szigetva/papers/icsh10-kalmanetal-harmony.pdf>

We thank

- Lund University for being our host
- *you for your attention*