Harmony that cannot be represented

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F/B harmony in Hungarian

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

<table>
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<th>SHORT</th>
<th>LONG</th>
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<tr>
<td>B</td>
<td>F</td>
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<tr>
<td>“LOW”</td>
<td>[a]</td>
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<tr>
<td>“MID”</td>
<td>[o]</td>
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<tr>
<td>HIGH</td>
<td>[u]</td>
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(choice between [ø] and [ɛ] depends on roundness harmony)

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

Properties associated with neutral vowels cross-linguistically

(i) no harmonic alternants: [i iː]

(ii) transparency to harmony: [i iː eː ε]

(iii) occurrence in mixed stems: [i iː eː ε ø øː y yː] (trivially, back vowels also all occur in mixed stems)

A further property associated with neutral vowels in Hungarian

(iv) antiharmony: [i iː eː ε]
**Neutral vowels**

**Neutral vowels**

(i) No harmonic alternants

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

[eː]
- 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] ~ [kalɛɛr] ‘conductor’, [gaːbor] ~ [gabɛs] ‘Gabriel’
(ii) Transparency I: height

- A single [i] or [i:] is always transparent:
  \[\text{[pop\text{\text{-i-r}(a|*\varepsilon)}]} \text{ ‘bum-elat.’, [tapi\text{\text{-r-n}(a|*\varepsilon)k]} \text{ ‘tapir-dat.’}\]

- A single [e:] may be transparent or variable:
  \[\text{[ka\text{\text{-fte:j-b}(a|*\varepsilon)}]} \text{ ‘castle-illat.’, [ta\text{\text{-n}\!e\text{-r-(o|a|*\varepsilon)k]} \text{ ‘plate-pl.’, [ta\text{\text{-n}\!e\text{-r-b}(o|\varnothing):l]} \text{ ‘-elat.’, [sate\text{\text{-n-b}(o|\varnothing):l]} \text{ ‘satin-elat.’}\]

- A single [ε] may be variable or opaque:
  \[\text{[fot}\varepsilon\text{-l-b(\varnothing|\varepsilon)n]} \text{ ‘armchair-iness.’, [ha\varepsilon\!\varepsilon\!\text{-m-b(\varnothing|\varepsilon)n)} \text{ ‘harem-iness.’, [okto\varepsilon\!\varepsilon\!\text{-r-b(\varnothing|\varepsilon)n]} \text{ ‘October-iness.’}\]
(ii) Transparency II: count

- A sequence of neutral vowels may variable or opaque:
  - [harakiri-n(α|ε)k] ‘harakiri-dat.’, [klarine:t-t(α|ε)l] ‘clarinet-instr.’,
  - [ate:ne:-v(α|ε)l] ‘Athena-instr.’,
  - [atsɛtile:n-n(*α|ε)k] ‘acetylene-dat.’

- A sequence of neutral vowels with [ε] as last is always opaque:
  - [kabinɛt-b(*α|ε)n] ‘government-iness.’ vs.
  - [bakɛlit-b(o|ø):l] ‘bakelite-elat.’
Excursus: truncation

Word final
- [gørbe] ‘bent’ ∼ [gørbyl] ‘bend’
- [be:kɛ] ‘peace’ ∼ [be:ki:t] ‘pacify’
- [barna] ‘brown’ ∼ [barnul] ‘become brown’
- [tista] ‘clean’ ∼ [tisti:t] ‘cleanse’

Word internal

Point of interest

\[
\begin{array}{cccccc}
\text{truncation} & \rightarrow & \text{harmony} & \rightarrow & [\ N + \ ? \ ] & / & [\ N + N + \ ? \ ]
\end{array}
\]
(iii) Mixed stems I

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

With [eː] (103 [Beː] stems, 83 [eːB] stems)

With [ɛ] (197 [Bɛ] stems, 223 [ɛB] stems)
- does not occur in truncating stems
(iii) Mixed stems II

With [ø øː y yː] (22 [BF] stems, 6 [FB] stems)
- do not occur in truncating stems
(iv) Antiharmony

Monosyllabic stems with [i iː]
- frequent with B suffixation (only [iː]): [siːv] ‘to smoke, to draw’, [ʒiːr] ‘grease’

Monosyllabic stems with [eː]
- frequent with F suffixation: [feːl] ‘to be afraid’, [teːl] ‘winter’

Stems with [ɛ]
- rare with B suffixation (1 stem): [dɛreːk-] ‘waist’ (bound stem of [dɛreːk])
Gradience in neutrality

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

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<tr>
<td>IN VARIABLE IN SUFFIX</td>
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<td>TRANSPARENT</td>
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<td>IN TRUNCATING MIXED STEM</td>
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<td>ANTIHARMONIC</td>
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Alternating vs. nonalternating [i] (and [eː])

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

- [martiniz] ‘spill Martini on’ ~
  [martiniz(ːa|i)] ‘s/he spills Martini on it’ (variation possible) ~
  [martinizit(ɛ|*)o]k ‘you-pl. spill Martini on it’ (no variation)
  ([martinizːaːtok] id.)

- [martinik] ‘Martinique’ ~
  [martiniki] ‘from M.’ ~
  [martinikin(ɛ)k] ‘to sg/sb from M.’ (variation possible)

[-j(ɛ)] vs. [-eː]

- [havėr] ‘pal’ ~ [havėrj(ɛ)] ‘his/her pal’ ~ [havėrjeːn(ɛ|*)a]k
  ‘his/her pal-dat.’ (cf. [sutėrɛːn-b(ɛ)n] ‘basement-iness.’)

- [havėrɛː] ‘that of the pal’ ~ [havėrɛːn(ɛ)]k ‘to that of the pal’
A minimal pair

Birds

- \([\text{kolibri}] \, \text{`colibri'} \sim [\text{kolibrije:} \text{]} \, \text{`that of the colibri'} \sim [\text{kolibrije:v(}a|\varepsilon\text{)}l] \, \text{`with that of the colibri'} \, (\text{variation possible})
- \([\text{kolibrije:} \text{]} \, \text{`his/her colibri'} \sim [\text{kolibrije:v}\text{(*}a|\varepsilon\text{)}l] \, \text{`with his/her colibri'} \, (\text{no } B \text{ suffix; but } [\text{kolibrija}] \sim [\text{kolibrija:val}])

Sentences

- Kidobtuk a galamb ketrecét a \([\text{kolibrije:v(}a\varepsilon\text{)}l] \, \text{együtt.}\)
  \(`we threw the pigeon’s pen out together with that of the colibri')
- Kidobtuk a galambját a \([\text{kolibrije:v}(\*)a|\varepsilon\text{)}l] \, \text{együtt.}\)
  \(`we threw his/her pigeon out together with his/her colibri')
Truncating suffixes

The denominal verb suffix [-i:t]

- [ʃaːrga] ‘yellow’ ~ [ʃaːrgiːt] ‘make yellow’ ~ [ʃaːrgiːtoː] ‘making yellow’ (B suffixation)
- [ʃima] ‘smooth’ ~ [ʃimiːt] ‘smoothen’ ~ [ʃimiːtoː] ‘smoothening’ (B suffixation)
- [beːna] ‘lame’ ~ [beːniːt] ‘paralyse’ ~ [beːniːtoː] ‘paralysing’ (B suffixation)

The nickname suffix [-i]

What’s the difference?

Hypothesis 1: the stems are different (cf. Vago 1980)
the [i] of [ʃimə] is not the same as the [i] of [ʃimon]


Hypothesis 2: the suffixes are different

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

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

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

REFUTATION: [dɪ:sɪ:tek] ‘I decorate’ ⇒ [-i:t] must have a transparent [i:]
Transparent vs. “semi-transparent”

[-iːt]
transparent: [saːrgiːtɔː], [ʃimιːtɔː], [bɛːniːtɔː], [diːsiːtʊː]

[-i]
“semi-transparent”: [saːrinak], [ʃimizɛk], [ʃiminɛk], [eːvinɛk], [heːdinɛk]
([hɛdvig] ~ [heːdi])

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<td>“SEMI-TRANSP.”</td>
<td>-B</td>
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Four different $[i(:)]$’s?

1. the antiharmonic $[i(:)]$ of $[fi:r-ok]$ ‘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

- **STEM**
  - FRONT $[si:v]$ ‘heart’, $[hit]$ 
  - ANTIHARMONIC $[fi:r]$ 
  - OPAQUE $[martinizi]$ 

- **SUFFIX**
  - SEMI-TRANSP. $[e:vi]$, $[sari]$ 
  - TRANSPARENT $[di:si:t]$
Even more types?

Consistent/uniform: [-iːt]

does not contribute to the count effect:

[hamiʃ(α|*ε)k] ‘fake-pl.’, [hamiʃiːt(ο|*ε)k] ‘I forge’

Inconsistent/non-uniform: locative [-i]

- transparent (like [-iːt], not semi-transparent like diminutive [-i]):
  [(paːl)utsːaiak] ‘from Pál utca’ ~
  [(rɛʒɔː)teːriɛk] ‘from Rezső tér’ ~
  [(marɡit)hidi(α|*ε)k] ‘from Margit híd’ (cf. [hiːd] ~ [hidak] ‘bridge~pl.’)

- contributes to the count effect:
  [karib] ‘Carib’ ~ [karib(ο|*ε)k] ‘Caribs’
  [karibi] ‘Caribbean’ ~ [karibi(α|ε)k] ‘Caribbeans’
References


This slide show is available at http://seas3.elte.hu/szigetva/papers/ics10-kalmanetal-harmony.pdf

We thank

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