

Antiharmony, transparency, truncation

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Abstract We show that harmony is a property of stems. Harmony is often calculated from the quality of the vowels of the stem, but once the harmony of a stem is determined, it is preserved even after the vowel responsible for it is truncated. However stem vowels are truncated by two processes, one of which destroys the identity of the stem. The harmony of such a destroyed stem is not preserved but recalculated from its vowels.

1 Front/back harmony in Hungarian

1.1 Harmonizing and invariant vowels in suffixes

- **harmonizing vowels:** u~y o~ø/ε a~ε o:~ø: u:~y: a:~e:
- **neutral vowels** (without harmonic alternants): i i: e:

	front	back	front	back
high	i	y ~ u	i:	y: ~ u:
mid	ø	o	e:	ø: ~ o:
mid-low	ε	a		
low				a:

1.2 Transparency

- ▶ Neutral vowels are transparent to front/back harmony.

a. local harmony

- front-final stems: [VF]F e. g. parfym-ben 'perfume-INE'
- back-final stems: [VB]B e. g. templom-ban 'church-INE'

b. non-local harmony: transparency in stems and suffixes

- front+neutral: [FN]F e. g. rögbi-ben 'rugby-INE'
- front+back: [F]NF e. g. sent-e:-ben 'saint-POSS-INE'
- back+neutral: [BN]B e. g. papi:r-ban 'paper-INE'
- back+back: [B]NB e. g. pap-e:-ban 'priest-POSS-INE'

1.3 Anti-harmony

- ▶ Neutral vowel stems can occur in both harmonic classes: front (**harmonic** stems) and back (**anti-harmonic** stems).

- harmonic stems: [N]F e. g. vi:z-ben 'water-INE'
- anti-harmonic stems: [N]B e. g. hi:d-ban 'bridge-INE'

- ▶ Invariant suffix vowels are 'transparent' to (anti-)harmony.

- harmonic stems: [N]NF vi:z-e:-ben 'water-POSS-INE'
- anti-harmonic stems: [N]NB hi:d-e:-ban 'bridge-POSS-INE'

2 Types of truncation

- ▶ **type 1** only V~Ø alternation in the stem

a. stem-final (VERB-FORMING SUFFIXES: -i:t, -ul/yl, -od/ed/ød- etc.)

- gørbε ~ gørb-yl ~ gørb-i:t 'curved ~ curve (it) ~ curve (tr)'
- barna ~ barn-ul ~ barn-i:t 'brown ~ get br. ~ make br.'
- be:kε ~ be:k-yl ~ be:k-i:t 'peace ~ reconcile ~ pacify'
- be:na ~ be:n-ul ~ be:n-i:t 'paralyzed ~ paralyze ~ get p.'

b. stem-internal (all non-analytic suffixes: -i:t, -i, -uk/yk etc.)

- tεrεm ~ tεr-m-yk ~ tεr-m-i 'hall ~ id.-POSS3PL ~ id.-ADJ'
- malom ~ malm-uk ~ malm-i 'mill ~ id.-POSS3PL ~ id.-ADJ'
- iker ~ ikr-yk ~ ikr-ε 'twin ~ id.-POSS3PL ~ id.-POSS3SG'
- pisok ~ pisk-uk ~ pisk-i:t 'mess ~ id.-POSS3PL ~ to mess'

- ▶ **type 2: diminutives:** longer sequence can be deleted

a. stem-final V is deleted:

- jεngε ~ jεng-uf 'weak ~ id.-DIMIN'
- apa ~ ap-u 'father ~ dad'
- ne:nε ~ ne:n-i 'aunt ~ auntie'
- tsitsa ~ tsits-o: 'cat ~ kitty'

b. longer sequence is deleted:

- tørte:nεlem ~ tør-i 'history ~ id.-DIMIN'
- hamburger ~ hamb-i 'hamburger ~ id.-DIMIN'
- si:vεjεn ~ siv-i 'cordially ~ id.-DIMIN'
- tsigaret:a ~ tsig-i 'cigarette ~ id.-DIMIN'

3 Truncation and harmony

3.1 Front/back stems

- ▶ Transparency holds in both types of truncated forms

- front stems: [FF] ~ [F^(F)]NF type 1 DIMIN. gørbε ~ gørb-i:t-hæt tynde ~ tynd-i-nεk
- back stems: [BB] ~ [B^(B)]NB type 1 DIMIN. barna ~ barn-i:t-hat ja:ra ~ ja:r-i-nak

3.2 Neutral stems

- ▶ Transparency holds in both types of truncated forms of harmonic (NF-)stems

- harmonic: [NF] ~ [N^(F)]NF type 1 DIMIN. be:kε ~ be:k-i:t-hæt ne:nε ~ ne:n-i-nεk

- ▶ Transparency is **suspended** in DIMINUTIVE truncated forms of **anti-harmonic** (NB-)stems.

- anti-harmonic: [NB] ~ [N^(B)]NB type 1 DIMIN. be:na ~ be:n-i:t-hat e:va ~ e:v-i-nεk

4 Solution

4.1 Generalizations

- ▶ **Transparency:** neutral vowels are transparent.

- within stems: [BN]B %[BNN]B etc.
- in suffixes: [B]NB [B]NNB [BN]NB etc.

- ▶ **Harmony Preservation:**

a suffixed form is harmonically identical to its stem.

e.g. [X]εB ⇒ [X]YεB where B is the class of back stems

- back stems: [B]εB ⇒ [B]NεB
[BB]εB ⇒ [B^(B)]NεB
- neutral stems: [N]εB ⇒ [N]NεB
[NB]εB ⇒ [N^(B)]NεB

- ▶ **Why does it not work for diminutives** and why does it work for truncated non-neutral stems even if they are diminutive?

4.2 Harmony Preservation and types of suffixation

- ▶ DIMINUTIVES create a **new stem** thus Harmony Preservation cannot hold for such truncation stems (cf. section 2):

stem	suffixed forms	harm. types	structure	HARM. PRESERV.	NEUTRAL HARMONY
jima 'smooth'	type 1 jim-i:t-hat 'smooth-VERB-MOD'	back	[N]NB	yes	(n.a.)
jim-ogat 'to caress'	DIMINUTIVE jim-i-z-hæt 'caress-DIMIN-MOD'	front	[NN]F	no	yes

- ▶ The loss of Harmony Preservation does not affect the non-neutral forms, because **Transparency** applies in the newly-created stem.

stem	suffixed form	harm. types	structure	HARM. PRESERV.	TRANSPARENCY
barna 'brown'	type 1 barn-i:t-hat 'brown-VERB-MOD'	back	[B]NB	yes	yes
Barna 'name'	DIMINUTIVE Barn-i-nak 'Barna-DIMIN-DAT'	back	[BN]B	no	yes

- ▶ **Neutral Harmony:** monomorphemic polysyllabic neutral stems are harmonic (front).

- harmonic stems: [NN]F tigrif-ben 'tiger-INE'