

Asymmetric variation

Justifying the absence of a possessive allomorph

Péter Rebrus^{MTA}

Miklós Törkenczy^{MTA, ELTE}

Péter Szigetvári^{ELTE}

BLINC 2

2017-06-02

Variation in yodfulness

(1) Variation in the Possessive

a. Singular possessee

possessor	pa:r 'pair'	ka:r 'damage'	tor 'wake'
3sg	pa:r ja	ka:r a	tor a % tor ja
3pl	pa:r ju k	ka:r u k	tor u k % tor ju k

b. Plural possessee

possessor	pa:r 'pair'	ka:r 'damage'	tor 'wake'
1sg	pa:r ja im	ka:r ra imsg	tor ai m % tor ja im
2sg	pa:r ja id	ka:r ra id	tor ai d % tor ja id
3sg	pa:r ja i	ka:r ra i	tor ai % tor ja i
1pl	pa:r ja ink	ka:r ra ink	tor ai nk % tor ja ink
2pl	pa:r ja itok	ka:r ra itok	tor ai tok % tor ja itok
3pl	pa:r ja ik	ka:r ra ik	tor ai k % tor ja ik

Variation in yodfulness

(2) The phonological conditioning of possessive Y-allomorphs

	stem-final segment(s)	behaviour	examples (3SG.POSS)
a.	V	yodful	*kapu-a, kapu- ja 'gate'
b.	C _[palatal]	yodless	la:ŋ- a , *la:ŋ-ja 'daughter'
c.	C _[sibilant]	yodless	koʃ- a , *koʃ-ja 'ram'
d.	VC _[nonpalatal, nonsibilant]	variation	*pa:r-a, pa:r- ja 'pair' ka:r- a , *ka:r-ja 'damage' tor- a , tor- ja 'wake'
e.	CC _[nonpalatal, nonsibilant]	mainly yodful	*domb-a, domb- ja 'hill'

Limitations on the variation in yodfulness: lowering stems

(5) Uniformity of the suffix-initial vowel in the paradigms of back and front unrounded stems

backness & height of the suffix-initial vowel:		a. back & mid (back non-lowering stems)	b. back & low (back lowering stems)	c. front & low (front unrounded stems)
Non-possessive	Plural	kar- <u>ok</u> , tor- <u>ok</u>	fal- <u>ak</u>	pɛr- <u>ɛk</u>
	Adjz	kar- <u>oʃ</u> , tor- <u>oʃ</u>	fal- <u>aʃ</u>	pɛr- <u>ɛʃ</u>
	Verbz	kar- <u>ol</u> , tor- <u>ol</u>	fal- <u>az</u>	pɛr- <u>ɛl</u>
Possessive	1sg	kar- <u>om</u> , tor- <u>om</u>	fal- <u>am</u>	pɛr- <u>ɛm</u>
	2sg	kar- <u>od</u> , tor- <u>od</u>	fal- <u>ad</u>	pɛr- <u>ɛd</u>
	3sg	kar- <u>ja</u> kar- <u>a</u> tor- <u>ja</u> % tor- <u>a</u>	fal- <u>a</u>	pɛr- <u>ɛ</u>
uniformity with 3sg		no / no	yes	yes
		'arm choir' 'wake'	'wall'	'trial'

Generalizations 1: linking vowels

(3) Paradigm Uniformity in Suffix Vowel (PU-V)¹¹

Suffix-initial vowels agree in quality within the paradigm of a stem.

(4) Analogical Support of Suffix Vowel (AS-V)

Given a choice of suffix allomorphs, prefer the one(s) that result in PU-V.

Limitation on the variation in yodfulness: recent loans

fe:zbuk-ja , * fe:zbuk-a 'Facebook-3S.POSS'

blog-ja , * blog-a 'blog-3S.POSS'

pab-ja , * pab-a 'pub-3S.POSS'

Generalizations 2: stem identity

(6) Morph-Syllable Alignment (M- σ Align)

In a suffixed “novel” stem, align the right edge of the stem with a syllable boundary.

(7) Analogical Support of Suffix Consonant (AS-C)

Given a choice of suffix allomorphs, prefer the one(s) that result in M- σ Align.

Variation in harmony: Bε stems

(8) Variation in the harmonic behaviour of Bε stems

		a. back preference	b. front preference	c. no preference (vacillation)
C-initial suffix	DAT	matek-n <u>ɑ</u> k ?matek-n <u>ɛ</u> k	?*kontsɛrt-n <u>ɑ</u> k kontsɛrt-n <u>ɛ</u> k	fotel-n <u>ɑ</u> k fotel-n <u>ɛ</u> k
	SUBL	matek-r <u>ɑ</u> ?matek-r <u>ɛ</u>	?*kontsɛrt-r <u>ɑ</u> kontsɛrt-r <u>ɛ</u>	fotel-r <u>ɑ</u> fotel-r <u>ɛ</u>
V-initial suffix	PLUR	matek- <u>ɑ</u> k *matek- <u>ɛ</u> k	?*kontsɛrt- <u>ɑ</u> k kontsɛrt- <u>ɛ</u> k	fotel- <u>ɑ</u> k fotel- <u>ɛ</u> k
	1SG. POSS	matek- <u>ɑ</u> m *matek- <u>ɛ</u> m	?*kontsɛrt- <u>ɑ</u> m kontsɛrt- <u>ɛ</u> m	fotel- <u>ɑ</u> m fotel- <u>ɛ</u> m
		'maths'	'concert'	'armchair'

Generalizations 3: harmonic consistency

(9) Harmonic Consistency in Affix (HC-Affix)

All the harmonic suffixes have identical harmonic values (F, B or F/B) within the paradigm of a stem.

B	F/B
madrid-nak 'Madrid-DAT'	martini-nək/nak
madrid-i-nak 'Madrid-ADJ-DAT'	

(10) Analogical Support: Harmonic Value (AS-H)

Given a choice of harmonic suffix allomorphs, prefer the one(s) that result in HC-Affix.

The independence yodfulness and backness harmony

	Yodful	Yodless
Back	pa:r-ja 'pair'	ka:r-a 'damage'
Front	y:r-jε 'space'	bø:r-ε 'skin'

- no variation in either dimension → 1 form
- variation in one dimension → 2 alternative forms
- *orthogonality*: variation in both dimensions → 4 alternative forms:

yodful F % yodless F % yodful B % yodless B

Asymmetry: absence of yodless B in singular

(12) Variation in yodfulness and variation in harmony are orthogonal

		Yodfulness	
		out of ZV (Yless)	in ZV
Harmony	out of ZV (back)	koʃ- <u>u</u> k	tor- <u>j</u> uk % tor- <u>u</u> k
	in ZV	notɛs- <u>y</u> k % notɛs- <u>u</u> k	hotɛl- <u>j</u> uk % hotɛl- <u>y</u> k % hotɛl- <u>j</u> uk % hotɛl- <u>u</u> k

(15) Variation in yodfulness and variation in harmony in 3SG.POSS are *not* orthogonal

		Yodfulness	
		out of ZV (Yless)	in ZV
Harmony	out of ZV (back)	koʃ- <u>a</u>	tor- <u>j</u> a % tor- <u>a</u>
	in ZV	notɛs- <u>ɛ</u> % notɛs- <u>a</u>	hotɛl- <u>j</u> ɛ % hotɛl- <u>j</u> a % hotɛl- <u>ɛ</u> / *hotɛl- <u>a</u>

(20) Relative frequencies of possessive variants (Google search)

e. 3PL. this stem:	*blog-jyk 0%	*blog-yk 0%	blog-juk 92.1%	blog-uk 7.9%
g. 3SG. this stem:	teɣ-jɛ 91.5%	teɣ-ɛ 8.5%	*teɣ-ja 0%	*teɣ-a 0%
i1. 3SG. this type:	foteɪ-jɛ 4.2%	foteɪ-ɛ 93.9%	foteɪ-ja 1.8%	*foteɪ-a 0.004%
i2. 3PL. this type:	foteɪ-jyk 23.6%	foteɪ-yk 71.3%	foteɪ-juk 4.7%	foteɪ-uk 0.4%
j. 3SG. this stem:	*notɛs-jɛ 0.008%	notɛs-ɛ 89.3%	*notɛs-ja 0.008%	notɛs-a 10.7%
k1. 3SG. this type:	haver-jɛ 0.5%	*haver-ɛ 0.012%	haver-ja 99.5%	*haver-a 0.004%
k2. 3PL. this type:	haver-jyk 0.9%	*haver-yk 0.044%	haver-juk 98.8%	haver-uk 0.2%
l. 3PL. this stem:	*kolɛs-jyk 0%	kolɛs-yk 4.9%	*kolɛs-juk 0%	kolɛs-uk 95.1%

Questions

1. With a stem that is variable in both dimensions why do we *not* find four alternative forms when the suffix vowel is low and why is it the **-ɑ** (i.e. the yodless back) form that is missing?
2. Why is the **-ɑ** form *not* missing when there are no yodful forms?
3. When a stem is variable in both dimensions why do forms behave differently when the suffix vowel is u~y vs. when it is a~ε?

(19) Prototypical stem classes and their properties in their 3rd possessive subparadigms

e.g.(variants: 3SG-3PL)	hamony	sib./pal.#	lowering	novel	familiar	3SG.POSS <je e ja a>	3PL.POSS <jük ük juk uk>
a. tor	B	-	-	-	-	0 0 1 1	0 0 1 1
b. koʃ	B	+	-	-	-	0 0 0 1	0 0 0 1
c. fal/haʃ	B	-/+	+	-	-	0 0 0 1	0 0 0 1
d. pɛr/ke:ʃ	F	-/+	X	-	-	0 1 0 0	0 1 0 0
e. blog (1-2)	B	-	-	+	-	0 0 1 0	0 0 1 1
f. ko:ʃ	B	+	-	+	-	0 0 0 1	0 0 0 1
g. tɛg (2-2)	F	-	X	+	-	1 1 0 0	1 1 0 0
h. bɛɕ:	F	+	X	+	-	0 1 0 0	0 1 0 0
i. fotɛl (3-4)	F/B	-	-	+	-	1 1 1 0	1 1 1 1
j. notɛs (2-2)	F/B	+	-	+	-	0 1 0 1	0 1 0 1
k. havɛr (2-3)	F/B	-	-	+	+	1 0 1 0	1 0 1 1
l. kolɛs (2-2)	F/B	+	-	+	+	0 1 0 1	0 1 0 1
constraints	AS-H	*Sib+j	AS-V	AS-C	AS-V		



Our analysis is like classical OT

- competing candidates
- ranked set of constraints
-

Our analysis is unlike classical OT: candidates

- not an infinite number by Gen (Archangeli and Pulleyblank 2015)
- (sub)paradigms, not individual forms (McCarthy 2005)
- the logically possible (sub)paradigms of forms resulting from the combination of one, more than one, all or none of the available affix allomorphs with the relevant stem (4 forms: $2^4=16$ subparadigms)

Our analysis is unlike classical OT: constraints

- are not part of UG but language-specific generalisations over (sets of) surface forms
- evaluate each member of the candidate paradigm and the violations are added up (McCarthy 2005)
- have a strict interpretation: a candidate paradigm is penalised by a constraint Z (and Z is violated) if the candidate paradigm
 - i. contains a form that is not facilitated by Z or
 - ii. does not contain a form that is facilitated by Z
- constraint combination: a form
 - i. must occur if supported by at least one of the constraints
 - ii. cannot occur if supported by neither constraint
$$\langle 1010 \rangle + \langle 0100 \rangle = \langle 1110 \rangle$$

(21a) 3SG.POSS subparadigm of non-sibilant/palatal-final **Bε** stems

fotel + {jε, ε, ja, a}		AS-H (1 1)	AS-C & AS-V (1010)+(0100)=(1110)
☞fotel-jε, -ε, -ja	(1110)		
fotel-jε, -ε, -ja, -a	(1111)		* (1111)
fotel-jε, -ja	(1010)		* (1010)
fotel-ε, -ja	(0110)		* (0110)
fotel-jε, -ε, -a	(1101)		** (1101)
fotel-jε, -ja, -a	(1011)		** (1011)
fotel-ε, -ja, -a	(0111)		** (0111)
fotel-jε, -a	(1001)		*** (1001)
fotel-ε, -a	(0101)		*** (0101)
fotel-jε, -ε	(1100)	* (1100)	* (1100)
fotel-jε	(1000)	* (1000)	** (1000)
fotel-ε	(0100)	* (0100)	** (0100)
fotel-ja	(0010)	* (0010)	** (0010)
fotel-ja, -a	(0011)	* (0011)	*** (0011)
fotel-a	(0011)	* (0001)	**** (0001)
(no form)	(0000)	** (0000)	*** (0000)

b. 3PL.POSS of non-sibilant/palatal-final **Bε** stems

fotεl + {jyk,yk,juk,uk}	AS-H (1 1)	AS-C & AS-V (1010)+(0101)=(1111)
☞ fotεl-jyk, -yk, -juk, -uk (1111)		
fotεl-jyk, -yk, -juk (1110)		* (1110)
fotεl-jyk,-yk,-uk (1110)		* (1101)
fotεl-jyk, -juk, -uk (1011)		* (1011)
fotεl-yk, -juk, -uk (0111)		* (0111)
fotεl-yk, -uk (0101)		** (0101)
fotεl-jyk,-uk (1001)		** (1001)
fotεl-yk,-juk (0110)		** (0110)
fotεl-jyk,-juk (1010)		** (1010)

c. 3SG/PL.POSS of sibilant/palatal-final **Bε** stems

notεs + {jε,ε,ja,a}	AS-H (1 1)	*Sib+j (0.0.)	AS-C & AS-V (1010)+(0100)=(1110)
☞ notεs-ε, -a (0101)			*** (0101)
notεs-ε, -ja (0110)		* (0110)	* (0110)
notεs-jε, -a (1001)		* (1001)	*** (1001)
notεs-jε, -ε, -ja (1110)		** (1110)	
notεs-jε,-ε,-ja,-a (1111)		** (1111)	* (1111)
notεs-ε (0100)	* (0100)		** (0100)
notεs-a (0001)	* (0001)		**** (0111)

d. 3SG.POSS of non-sibilant/palatal-final familiar **Bε** stems

haver + {jε,ε,ja,a}	AS-H (1 1)	AS-C & AS-V (1010)+(0000)=(1010)
☞haver-jε, -ja (1010)		
haver-jε, -ε, -ja (1110)		* (1110)
haver-jε, -ja, -a (1011)		* (1011)
haver-jε, -ε, -ja, -a (1111)		** (1111)
haver-ε, -a (0101)		**** (0101)
haver-ja (0010)	* (0010)	* (0010)
haver-jε (1000)	* (1000)	* (1000)
haver-jε, -ε (1100)	* (1100)	** (1100)

e. 3PL.POSS of non-sibilant/palatal-final familiar **Bε** stems

haver + {jyk,yk,juk,uk}	AS-H (1 1)	AS-C & AS-V (1010)+(0001)=(1011)
☞haver-jyk, -juk, -uk (1011)		
haver-jyk, -juk (1010)		* (1010)
haver-jyk,-yk,-juk,-uk (1111)		* (1111)
haver-jyk, -uk (1001)		* (1001)
haver-yk, -uk (0101)		*** (0101)
haver-juk, -uk (0011)	* (0011)	* (0011)

f. 3SG.POSS of sibilant/palatal-final familiar **Bε** stems

kolεs + {jε,ε,ja,a}	AS-H (1 1)	*Sib+j (0.0.)	AS-C & AS-V (1010)+(0000)=(1010)
☞ kolεs-ε, -a (0101)			**** (0101)
kolεs-jε, -ja (1010)		** (1010)	
kolεs-jε, -ε, -a (1101)		* (1101)	* (1101)
kolεs-jε, -ε, -ja (1110)		** (1110)	* (1110)
kolεs-jε, -ε, -ja, -a (1111)		** (1111)	** (1111)
kolεs-ε (0100)	* (0100)		*** (0100)

thank

- you
- BLINC2 organizers
- NKFI #119863