
Systematic vacillation in vowel-zero alternation in Hungarian

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plan

1. paradigmatic uniformity, base identity and conservatism
2. vowel-zero alternation within and after the stem in Hungarian
3. paradigmatic system of verbs: lexically defined stem and suffix types
4. systematic variation (overabundance) in the verbal paradigm
5. limiting and facilitating factors of variation: the past suffix (uniformity vs phonotactics)

paradigmatic constraints: uniformity

- **paradigm uniformity:** identity/similarity between surface forms within inflectional (or extended) paradigm (e.g., Steriade 2000, Albright 2011)
- **symmetrical:** anti-allomorphy within paradigm without designated members, e.g., levelling; Uniform Exponence (Kenstowicz 1996), Optimal Paradigms (McCarthy 2005), etc.
- target–source **asymmetry:** target conforms to source, where
 - source is **any** paradigm member, e.g., Lexical Conservatism (Steriade 1999)
 - source is a **designated** paradigm member, e.g., Base Identity (Kenstowicz 1996, Kager 1999, Urbanczyk 2005)

vowel–zero alternations in Hungarian

∅ in stem, V in suffix

V /∅ in stem, ∅/ V in suffix

V in stem, ∅ in suffix

Base: NDF.3SG

NOMZ

DEF.2SG

NDF.2SG

NDF.2PL

SBJV.DEF.2SG DEF.3SG

kotor ‘scoop’

kotr-áš

kotr-od

kotor-s

kotor-tok

kotor-d

kotor-ja

ugr-ik ‘jump’

ugr-áš

ugr-od

ugr-as

ugr-otok

ugr-d

ugr-ja

- within the stem & after the stem
- phonologically optimal outputs:
 - avoid unstable V before CV (syncope): **kotor-áš*, **kotor-od*, **ugr-as*
 - avoid the following polymorphemic clusters: *...C-C# and *...CC-C...
 - systematic exceptions: analytical (“level-2”) suffixation: e.g. *kotor-s*, *ugr-d*, *ing-ja*

vowel–zero alternation is lexically determined in stems

verbal stem type is not (fully) predictable from phonotactics (nominal-only stems in parentheses)

3 types:	stable CC-final	alternating VC~CC-final	stable VC-final
nz	vonz 2	kínoz 6	ónoz 20
rd	hord 2	füröd- 1	háborod- 51
nl	ajánl 1	özönöl 3	honol 3
ng	leng 52	inog 1	0 (žineg 1)
rg	0 (kiborg 2)	forog 69	károg 1
rz	0 (borz 3)	soroz 13	oroz 127
kl	0	haldokol- 20	pakol 67

note that $-(V)z$, $-(V)l$, $-(k)Vd$ are productive verbalizers

vowel–zero alternation is lexically determined in suffixes

type of suffix is not predictable from its phonological makeup (each type is populous)

s u f f i x t y p e s			
s t e m	V-initial	C~V-initial	C-initial
V final	-C	-C	-C (limited, no verb roots)
VC final	-V	-C	-C
CC final	-V	-V	-C
examples:	-Vk -Vd -Vm -Unk -Ol -i ₋₃ -A ₋₆ -ik -Ó -Áš -OgAt	-s -nAk -lAk -tOk -ni ₋₇ -nA ₋₁₃	-d -j ₋₁₄ -hAt -vA -ja ₋₃ -jUk
			may be subsyllabic never subsyllabic

legend: A={a,e}, U={u,ü}, O={o,ö,e}, Ó={ó,õ}

the variation problem

stem types	Base form 'PRS.INDV.NDF.3SG'	V-suffix e.g., '-INDV.NDF.1SG'	C~V-suffix e.g., '-INDV.NDF.2SG'	C-suffix e.g., '-SBJV.DEF.2SG'
stable VC	žarol 'blackmail'	žar o l-ok	žar o l-s	žar o l-d
alternating VC~CC	töröl 'wipe'	tör l -ök	tör ö l-s	tör ö l-d
	hajl-ik 'bend'	haj l -ok	haj l -as ~ haj o l-s	haj o l-d
stable CC	rejl-ik 'inhere'	rej l -ek	rej l -es	—
	ajánl 'suggest'	aján l -ok	aján l -as	aján l -d

intra-speaker vacillation documented at the entrance of an abandoned quarry pond: *FÜRDENI* ~ *FÜRÖDNI TILOS* 'no swimming, lit. bathe-INF forbidden'

fürd-eni



füröd-ni

lexical verb classes: IK and non-IK

two verb classes distinct in their base form: PRS.INDV.NDF.3SG

1. non-IK stem: base form has zero exponent
2. IK stem: base form exponent is *-ik*

the distinction is lexical and independent of stem type

stable CC

vonz

burjász-ik

alternating VC~CC

serez, cf. *serz-ek*

vérz-ik, cf. *vérez-d*

stable VC

oroz, cf. *oroz-ok*

boroz-ik, cf. *boroz-ok*

paradigm-based inferences predict C~V-suffixed forms

systematic stem vacillation (overabundance)

- why is it limited to the combination of a specific stem and affix type (alternating stems + C~V suffixes)?
- why is it further limited to the **IK** subtype of **alternating** stems?

asymmetrical paradigm uniformity stem of C~V suffixed forms must be **identical** (TARGET) with

- stem of the **base form** and **C-suffixed form** (SOURCES)
- **vacillation** arises when the two sources are different (-**CC** and -**VC**)
- this only occurs in the case of alternating **IK** verbs (otherwise the two sources are identical)

uniformity in the verbal paradigm: sources → target

stem types	Base form (SOURCE 1)	V-suffixed (indifferent)	C~V-suffixed (TARGET)	C-suffixed (SOURCE 2)
stable -VC	VC(-ik) →	VC-	VC-	← VC-
-VC~CC; non-IK	VC →	CC-	VC-	← VC-
-VC~CC; IK	CC-ik →	CC-	CC- ~ VC-	← VC-
stable -CC	CC(-ik) →	CC-	CC-	← (CC-)

SOURCE 1: base form

non-IK alternating stems: *-VC stem alternant*

IK alternating stems: *-CC stem alternant*

SOURCE 2: C-suffixed (analytic) forms

alternating stems: *-VC stem alternant*

stem uniformity analysis

- problem for non-paradigm-based / representational analysis:
 - why should **IK** and **non-IK** stem-internal unstable vowels behave differently?
 - why have overabundance in the IK paradigm and none in the non-IK paradigm and not the other way round?
- **not** classic Base Identity: IK stems are not free forms
- **not** classic Lexical Conservatism: CC and VC stem allomorphs are available *both* in non-IK and IK paradigms and overabundance only occurs in the latter
- predicting variation: the two sources (base, C-suffixed stems) **do not compete** for filling target (C~V-suffix) cells: **both** occur when different
- overabundance is typically characterised by **instability**: differences in the frequency of variants

additional suffix type: basic past

- **basic past:** nondefinite 3sg *-t~Vtt*
- **suffixed past:** *-t~Vtt* + V-initial person/number/definiteness marker

	basic past		suffixed past (= C~V suffixation)	
stem-final C:	cor. son.	other	coronal sonorant =	other
stable VC stem:	<i>vár-t</i>	<i>kap-<u>ott</u></i>	<i>vár-t-ak</i> (=vár-nak)	<i>kap-t-ak</i> (=kap-nak)
VC~CC non IK stem:	<i>kotor-t</i>	<i>moz<u>g</u>-ott</i>	<i>kotor-t-ak</i> (=kotor-nak)	<i>mozog-t-ak</i> (=mozog-nak)
VC~CC IK stem:	<i>u<u>g</u>r-ott</i> (*ugor-t)	<i>für<u>d</u>-ött</i> (*füröd-t)	<i>u<u>g</u>r-ott-ak</i> (=ugr-anak) ~ <i>ugor-t-ak</i> (=ugor-nak)	<i>für<u>d</u>-ött-ek</i> (=fürd-enek) ~ <i>füröd-t-ek</i> (=füröd-nek)

basic past cannot be identified with any of the previous suffix types

uniformity overrides some phonology

- suffix-specific **phonotactic** constraints (**T** represents the past tense morpheme):
 - ***RVT**] suffix-initial vowel is not realised after coronal sonorants: *tol-t* (**tol-ott*), *kotor-t* (**kotr-ott*)
 - ***PT**] suffix-initial vowel must be realised otherwise: **kap-t* (*kap-ott*), **mozog-t* (*mozg-ott*)
- **problem 1**: systematic difference with **IK** and **non-IK** alternating stems
 - non-**IK** stem: *kotor-t* **IK** stem: *ugr-ott* (**u*gor-t)
- this distinction can only be captured wrt the difference between **base forms** (*kotor* vs. *u*gr-*ik*)
- **uniformity constraint** dominates ***RVT** phonotactics (and is dominated by ***PT**):
SOURCE: **base** form (present **indic. nondef. 3sg**) ⇒ TARGET: **basic** past (past **indic. nondef. 3sg**)
- **problem 2**: lack of vacillation (*u*gr-*ott*, **u*gor-t)
extreme morphological proximity motivates the inactivity of the other source (C-suffixed forms)

visualized in tableaux

/ug(o)r/+/ (Vt)t/	*PT]	SYNCOPE	UNIFORM(stem, Base)	*RVT]
ugor-t			★! (base=ugr-ik)	
ugor-ott		★!	★ (base=ugr-ik)	★
☞ ugr-ott				★

/moz(o)g/+/ (Vt)t/	*PT]	SYNCOPE	UNIFORM(stem, Base)	*RVT]
mozog-t	★!			
mozog-ott		★!		
☞ mozg-ott			★ (base=mozog)	

uniformity targeting basic past

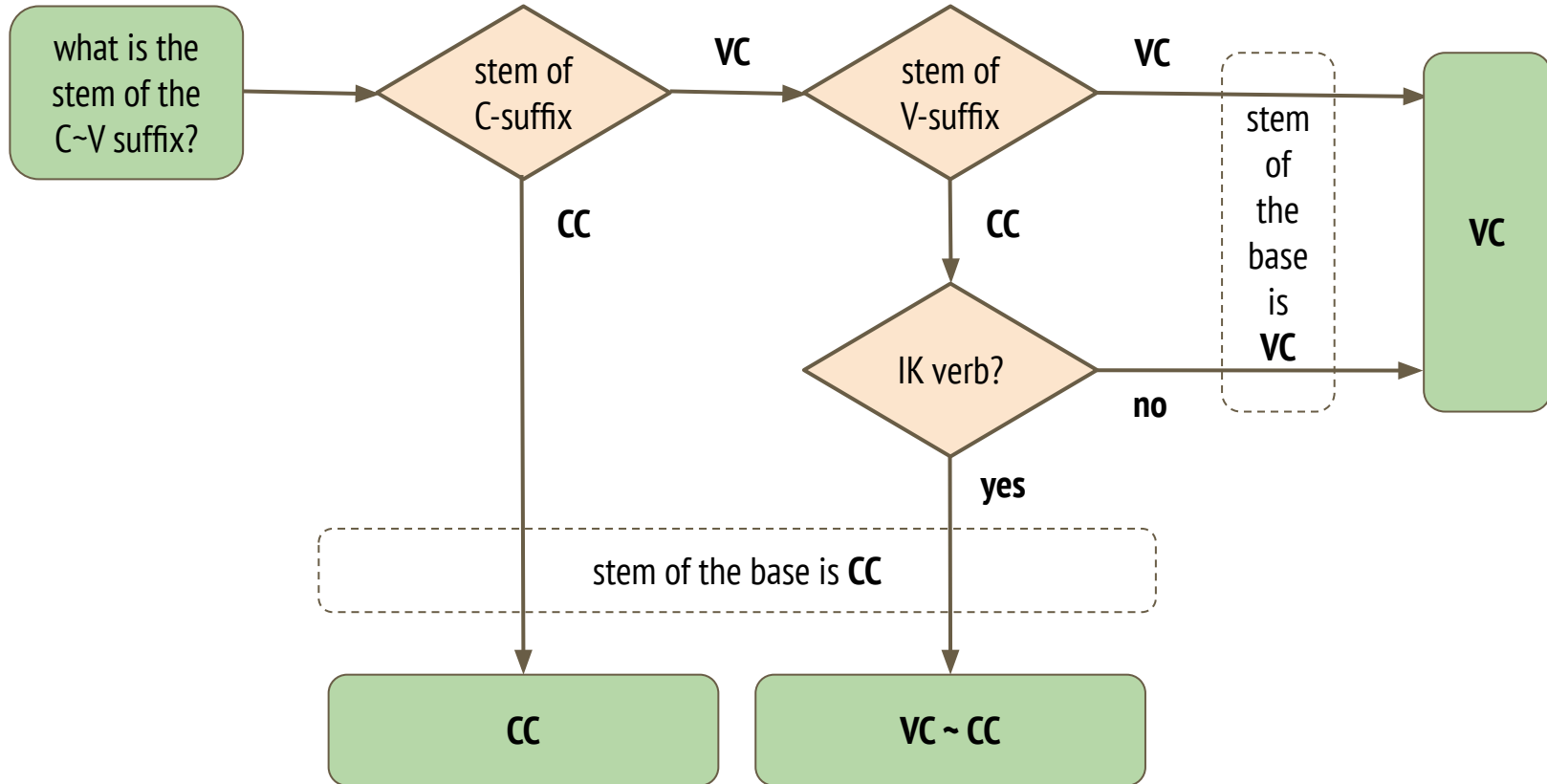
stem types	Base form '-PRS.NDF.3SG'	V-suffix '-DEF.2SG'	PST '-PST.NDF.3SG'	C-suffix '-SBJV.DEF.2SG'
-VC~CC; non-IK	kotor 'scoop' pörög 'whirl'	ko <u>tr</u> -od pö <u>rg</u> -öd	koto <u>r</u> -t pö <u>rg</u> -ött	koto <u>r</u> -d pör <u>ö</u> g-d
-VC~CC; IK	ugr-ik 'jump' fürd-ik 'bathe'	u <u>gr</u> -od fü <u>rd</u> -öd	u<u>gr</u>-ott fü <u>rd</u> -ött	u <u>g</u> o <u>r</u> -d fü <u>r</u> ö <u>d</u> -d
-VC~CC; non-IK	VC- → VC- →	CC- CC-	VC- CC- (*PTJ)	VC- VC-
-VC~CC; IK	CC- → CC- →	CC- CC-	CC- CC-	VC- VC-

recap

we have discussed

- **uniformity effects** which apply between lexically defined (sets of) paradigm cells and interact with
- **phonological** (phonotactic) constraints and
- **morphological** constraints (morphosyntactic status) resulting in
- **overabundance** (systematic vacillation) and the
- unexpected absence of overabundance

inferences for predicting the stem of a C~V suffixed form



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references

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additional lexical stem type: s~d stems

- nonphonological alternation in a stem class: final *s* alternates with *d* (sometimes *z* or \emptyset)
- **morphological** restriction: s-final stem alternants only occur before **person/number** suffixes
- systematic **vacillation** in **Base** and **V-suffixed** form (not only in expected C~V-suffixed form)

	Base	V-suffix		C~V-suffix		C-suffix
		person/number	other	person/number	other	
stable VC:	<i>alkud-ik</i> ~ <i>alku<u>s</u>-ik</i>	<i>alkud-ok</i> ~ <i>alku<u>s</u>-ok</i>	<i>alkud-ó</i>	<i>alkud-nak</i> ~ <i>alku<u>s</u>-nak</i>	<i>alkud-ni</i>	<i>alkud-j</i>
Vd ~ Cs:	<i>haragud-ik</i> ~ <i>harag<u>s</u>-ik</i>	<i>haragud-ok</i> ~ <i>harag<u>s</u>-ok</i>	<i>haragud-ó</i>	<i>haragud-nak</i> ~ <i>harag<u>s</u>-anak</i>	<i>haragud-ni</i>	<i>haragud-j</i>

s~d stems vacillate in Base form too

suffix morphology	Base form NDF.3SG –	V-suffix NDF.1PL NOMZ	C~V-suffix NDF.3PL COND	C-suffix DEF.3SG CVB
person/number suffixes (s and d stem allomorphs)	mosa <u>ks</u> -ik ~ mosak <u>od</u> -ik	mosa <u>ks</u> -unk ~ mosak <u>od</u> -unk	mosa <u>ks</u> -anak ~ mosak <u>od</u> -nak	mosak <u>od</u> -ja
other suffixes (only d stem allomorph)	–	mosak <u>od</u> -ás	mosak <u>od</u> -na	mosak <u>od</u> -va
person/number	-Cs ~ -Vd → →	-Cs ~ -Vd	-Cs ~ -Vd	← -Vd
other	–	-Vd	-Vd	← -Vd

suffix types: basic vs suffixed past

stem types	Base form	V-suffix '-DEF.2SG'	PST '-PST.NDF.3SG'	PST+ (= C~V suffix) '-PST-NDF.3PL'	C-suffix '-SBJV.DEF.2SG'
stable -VC	žarol 'blackmail' oroz 'poach'	žarol-od oroz-od	žarol-t oroz-ott	žarol-t-ak oroz-t-ak	žarol-d oroz-d
-VC~CC; non-IK	töröl 'wipe' pörög 'whirl'	töröl-öd pörög-öd	töröl-t pörög-ött	töröl-t-ek pörög-t-ek	töröl-d pörög-d
-VC~CC; IK	ugr-ik 'jump' fürd-ik 'bathe'	ugr-od fürd-öd	ugr-ott (!) fürd-ött	ugr-ott-ak ~ ugor-t-ak fürd-ött-ek ~ füröd-t-ek	ugor-d füröd-d
stable -CC	ajánl 'suggest'	ajánl-od	ajánl-ott	ajánl-ott-ak	ajánl-d