Hungarian morphology doesn't meet GP

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CHART 1. Morphophonological alternations

	NOMIN./GLOSS	PLURAL	2PL-POSS.	SUPERESS.	INESSIVE	TERMIN.	-ness/-hood	-like
TYPE				STEM AND/OR SUFFIX DOES NOT CHANGE				
i. LTL	zár 'lock'	zárak	záratok	záron	zárban	zárig	zárság	zárszerű
	ól 'pigsty'	ólak	ólatok	ólon	ólban	ólig	ólság	ólszerű
	hegy 'mountain'	hegy[ɛ]k	hegy[ɛ]tek	hegy[e]n	hegyben	hegyig	hegység	hegyszerű
ii. SVS	nyár 'summer'	nyarak	nyaratok	nyáron	nyárban	nyárig	nyárság	nyárszerű
	tér 'space'	terek	teretek	téren	térben	térig	térség	térszerű
iii. VA	mű 'work'	művek	művetek	művön	műben	műig	műség	műszerű
iv. VZA	bokor 'bush'	bokrok	bokrotok	bokron	bokorban	bokorig	bokorság	bokorszerű
	ökör 'ox'	ökrök	ökrötök	ökrön	ökörben	ökörig	ökörség	ökörszerű
	selyem 'silk'	selymek	selymetek	selymen	selyemben	selyemig	selyemség	selyemszerű
v. SFVL	anya 'mother'	anyák	anyátok	anyán	anyában	anyáig	anyaság	anyaszerű
	remete 'hermit'	remeték	remetétek	remetén	remetében	remetéig	remeteség	remeteszerű
vi. VH	kár 'damage'	károk	károtok	káron	kárban	kárig	kárság	kárszerű
	kór 'disease'	kórok	kórotok	kóron	kórban	kórig	kórság	kórszerű
	tőr 'dagger'	tőrök	tőrötök	tőrön	tőrben	tőrig	tőrség	tőrszerű
	per '(law)suit'	per[e]k	per[e]tek	peren	perben	perig	perség	perszerű
		STEM AND/OR SUFFIX CHANGES						

Note 1: Accent and double accent marks length, but *a*=[ɔ], *á*=[aː], *e*=[ɛ] (and [e] in the Dunántúl dialect), *é*=[eː]; *gy*=[ɟ], *ly*=[j], *ny*=[ɲ], *s*=[ʃ], *sz*=[s].
Note 2: [ɛ]=[e] in the Budapest dialect.
Note 3: The chart contains only nominal paradigms, and omits the ACCUSATIVE forms, which seem to be regulated by some form of onset-to-onset government (the presence of presuffixal vowel is dependent on the sonority and/or place of articulation of the stem final consonant). All other nominal suffixes can be grouped with one of the types the columns represent.
Note 4: LTL = Lexically Triggered Lowering, SVS = Stem Vowel Shortening, VA = *v*-Augmentation, VZA = Vowel–Zero Alternation, SFVL = Stem-Final Vowel Lengthening, VH = Vowel Harmony
Note 5: There are 3 morphophonological alternation types which are available not only for closed stem-classes: VH, SFVL, Predictable Lowering (i.e. lowering by non-lowering stems: verbal stems are never lowering, adjectival stems are almost exceptionlessly lowering, nominal stems vary with lowering stems being a closed class).

PROPOSITION 1. The system in Chart 1 reveals a hierarchy: there is an increasingly larger set of suffixes triggering the change; if n is triggered by a suffix, $n+1$ is also triggered by it and if a suffix does not trigger n it does not trigger $n-1$ either.

PROPOSITION 2. Traditional GP analyses (Demirdache 1988, Dunn 1992, Polgárdi & Rebrus 1996, Rebrus 1996, Ritter 1995, Törkenczy 1992) have treated random sets of these alternations as phonological phenomena without giving any principled reason for the inclusion or exclusion of the others.

PROPOSITION 3. Since i–iv in Chart 1 apply only to closed classes of stems they can be viewed as nonanalytical processes in the lexicon (Kaye 1995). This approach, however,

a. cannot explain the systematic property of suffixation mentioned in Proposition 1;
b. cannot explain the productivity of the suffixations which are unexplainable by phonotactic reasons:
pun 'Punic' and *punok* 'Punic, pl.' vs. *punk* 'punk'
bár 'bar' and *bárod* 'your bar' vs. *bárd* 'hatchet, bard'

ANALYSIS 1: Synthetical suffixation. Alternation is regulated by proper government, SVS is seen as a subcase of VZA (Ritter 1995).
Working hypothesis 1: presuffixal vowel is empty

1	bok@r⟨@⟩	nya@r⟨@⟩	ok	*bokor, nyár*
2	bok⟨@⟩r-@-k⟨@⟩	!nya⟨@⟩r-@-k⟨@⟩	melody problem for LTL	*bokrok, nyarak*
3	bok⟨@⟩r-on⟨@⟩	*nya⟨@⟩r-on⟨@⟩		*bokron, nyáron*
4	*bok@r-⟨@⟩-tok⟨@⟩	*nya@r-⟨@⟩-tok⟨@⟩		*bokrotok, nyaratok*
5	*bok@r-⟨@⟩-k-@-t⟨@⟩	*nya@r-⟨@⟩-k-@-t⟨@⟩	plural accusative	*bokrokat, nyarakat*

Working hypothesis 2: presuffixal vowel is not empty

4′ bok⟨@⟩r-o-tok⟨@⟩ nya⟨@⟩r-a-tok⟨@⟩ *bokrotok, nyaratok*
5′ bok⟨@⟩r-o-k-a-t⟨@⟩ nya⟨@⟩r-a-k-a-t⟨@⟩ *bokrokat, nyarakat*

Problem: where does presuffixal vowel belong, to stem or to suffix?
a. to suffix, but then what is the difference between SUPERESSIVE and PLURAL?
— either there are two PLURAL suffixes, the choice between them lexically conditioned by stem and only one SUPERESSIVE
— or there is one PLURAL suffix, but this is difficult to represent (this is not a VH process: *tollak* 'pens, feathers' vs. *gólok* 'goals' and *dalok* 'songs' vs. *falak* 'walls'), it would need an element equivalent to [−low], which is unavailable, and the productive class would have to be marked lexically.

2′ bok⟨@⟩r-ok⟨@⟩ nya⟨@⟩r-ak⟨@⟩ *bokrok, nyarak*

b. to stem, but
— domain-final full vowel has to disappear
— domain-final full vowel must not properly govern.

1′ *bok⟨@⟩ro *nya⟨@⟩ra *bokok, nyár*

A more sophisticated approach (László Kálmán p.c., Kornai 1992): floating **A** element:

1″ bok@r⟨@⟩ nya@r⟨**A**⟩ *bokor, nyár*

but since all the elements of [ɔ] (i.e., **A**, **U** and **@**) cannot be floating simultaneously, we need the following changes (also needed for the *a*∼*á* alternation in SFVL and SVS):
a language specific stipulation: **.A** → **A.@**
a universally plausible process: **A.@** → **AU.@** (nonlow back/non-**A**-headed vowels tend to be round)

Before suffixes beginning with a nonempty vowel (e.g. SUPERESSIVE) the floating **A** deletes.
Problems: needs ambient **U** (apparently needed anyway) and where does the [o] of *bokrok* come from (no default filling in in GP).

CONCLUSION 1. Since proper government in itself is inadequate to distinguish all stem types and melody is highly problematic, more than one level/degree of syntheticity need to be distinguished.

ANALYSIS 2: Analytical suffixation. Analyticity is revealed by morpheme-internally illicit C clusters.
kádban 'in the bathtub': *[db] ⇒ [[kád]ban] or [[kád][ban]]
kertben 'in the garden': *[rdb] ⇒ [[kert]ben] or [[kert][ben]]

It seems reasonable to distinguish harmonizing and nonharmonizing suffixes (e.g. *-ban/-ben*, *-ság/-ség* vs. *-kor, -szerű*) by positing the structures [[A]B] and [[A][B]], respectively. (Note that suffixes like *-ig* and *-ért* may be taken to be a harmonizing but contain transparent vowels.) Hence,

[[anyá]ban], [[anyá]ig], [[anya]ság] vs. [[anya][szerű]]

SFVL cuts across this classification:

[[anyá]ban], [[anyá]ig] vs. anya||ság, [[anya][szerű]]

CONCLUSION 2. Since VH groups *anyában* and *anyaság* together, while SFVL groups *anyaság* and *anyaszerű* together, a third type of analytic suffixation needs to be recognized.

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