Logoori Noun Tone 2.0

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1. Introduction

Bantu noun tone has distributional gaps (HL, LH, LL, *HH); only 2 or 3 patterns for σσσ, σσσσ
The (credible) null hypothesis for noun tone in Bantu:
Memorize where the surface tone is, for each noun
Very few alternations that motivate rules
There may be patterns: the grammar need not encode them
Verbs are different. The grammar *must* encode those alternations

Morphology provides ample evidence from alternations for a tone analysis of verbs

(1)

L verb		*H verb*	
vara-rakʊʊrana	'they will release e.o'	vara-vóhoollana	'they will untie e.o'
vakɪ-rákʊ́ʊ́rana	'they are still releasing e.o'	vake-vohóólláná	'they are still untying e.o'
na va-rákʊ́ʊ́ráne	'they will release e.o'	na va-vóhóólláne	'they will untie e.o'
váá-rákʊʊrana	'they released e.o'	váá-vóhoollana	'they untied e.o'
rakʊʊrani	'release e.o!'	vohóóllání	'untie e.o!'
ka-rakʊ́ʊ́ꜜráné	'now release e.o!'	ka-vohóóꜜlláné	'now untie e.o!'
vaka-ráꜜkʊ́ʊ́ráná	'they just released e.o'	vaka-vóꜜhóólláná	'they just untied e.o'
vaa-rákʊ́ʊ́rání	'they released e.o (hest)'	vaa-vóhóóllání	'they untied e.o (hest)'

A typical Logoori noun

(2) ʊ-mʊ-rógoori 'Logoori person' a-va-rógoori 'Logoori people'
Proclitics (nɪ- "it's a", sa- "like") reveal little.
Simple phrasal effects: avarógoori varáhɪ →avaróꜜgóórí váráhɪ 'good Logooris'
Nothing spectacular or revealing: H spreads to the left.

Logoori noun tone in a nutshell

(3) A stem can have Ø, 1 or 2 H tones
If 1 H, it is on the first stem syllable
Minor exception: a few stems with H on V_2 (the penult, almost always)
If 2 Hs, the second H is either final or penult
Then the first H goes towards the left edge of the stem (pre-stem or stem-initial)
The location of H_1 is governed by stem length and location of H_2.
H on a long penult is usually level H, but can be (lexically) falling

2. General tone processes

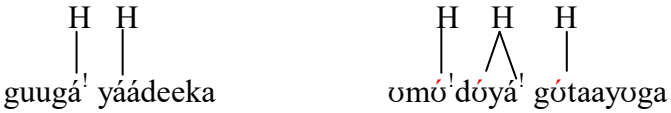
Downstep from concatenation of Hs

(4)

guugá	'grandfather'	yáádeeka	'he is having cooked'
guugáꜜ yáádeeka	'grandfather is having cooked'		
ʊmóꜜdóyá	'mashed beans'	gótaayʊga	'before they go bad'
ʊmóꜜdóyáꜜ gótaayʊga	'before the beans go bad'		

Downstep is the non-phonological interpretation of H H in the phonological output. Or late floating-L insertion between H autosegments, if you insist.

(5)



Leftward Spread: H spreads to the left (usually: there are blockage conditions)

(6) nɪ vwaangʊ marova kʊvarizɪr_avaand_ɪzing'oombe
"it is easy for Marova to count cows for the people"

nɪ́ vwáángʊ́ márʊ́vá kʊ́várízír_áváánd_ízíng'óómbé dáave
"it is not easy for Marova to count cows for the people"

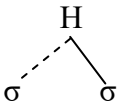
Spreading can result in H!H

(7) nɪ rahísɪ marova kʊrɪma 'it's easy for Marova to plow'
nɪ rahí!sí márʊ́vá kwíɪmba 'it's easy for Marova to sing'

Irreducible (*token*) *optionality in spreading*

(8) nɪ́ vwáángʊ́ márʊ́vá kwíɪmba 'it's easy for Marova to sing'
nɪ vwaangʊ maróvá kwíɪmba id.

(9)



Leftward Spreading (opt: usually applies)

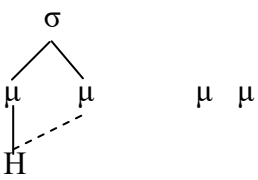
Falling tone only exist in a long phrase penult
Long penult: H vs. fall lexical contrast

(10)

ɪri-dáanji	'tank'	ɪri-dáánji llara	'1 tank'
ʊrʊ-nyáasi	'medicine'	ʊrʊ-nyáá!sí ʊ́llálhɪ	'good medicine'
ʊmʊ-sáaza	'man'	ʊmʊ-sááza vʊza	'only a man'
ʊmʊ-sáára	'tree'	ʊmʊ-sáára mʊlla	'1 tree'
ín-dʊ́ʊ́mba	'drum'	ín-dʊ́ʊ́!mb_ííndálhɪ	'good drum'
eke-kʊ́ʊ́ndo	'monkey'	eke-kʊ́ʊ́ndo vʊza	'only a monkey'

Fall Simplification

(11)



(or: some featural analog, F→H)

Choice of Fall vs. H is tense-determined in verbs
Fall vs. H is lexical in nouns (how?)

3. Lexical tone distribution

Undoing the effect of LS and downstep: the possible patterns

(12)

ʊmʊ-doto	'infant'	daadá	'father'
ɪch-áayo	'herd'	ʊmw-ááraabu	'Arab '
ʊmʊ-dɪɪgɪrʊ	'crutch'	ɪri-syaamogoma	'gecko'
ɪkí-bága	/ɪkɪ-bága/	'cat'	
ɪkí!-fʊryá	/ɪkí-fʊryá/	'pan'	
é!-ngókó	/é-ngokó/	'chicken'	
eké!-róóró	/eké-rooró/	'chicken louse'	
ʊmʊ́-sáára	/ʊmʊ-sáára/	'tree'	
ʊmʊ́!-yááyɪ	/ʊmʊ́-yááyɪ/	'boy'	
í-dwáasi	/ɪ-dwáasi/	'milk cow'	
ʊm̀-bʊ́!gʊ́sʊ́	/ʊm̀-bʊ́gʊsʊ́/	'Bukusu '	
ʊrʊ́-háá!ngáywá	/ʊrʊ-háángaywá/	'cave'	
ɪrí-kʊ́áfʊri	/ɪri-kʊ́áfʊri/	'padlock'	
ɪ-návódo	/ɪ-navódo/	'basket'	
ʊmʊ́-rógoori	/ʊmʊ-rógoori/	'Logoori '	
ɪch-áá!mégéré	/ɪch-áámegeré/	'mushroom'	
e-pé!térʊ́ri	/e-péterʊ́ri/	'petrol'	

Class prefixes are underlyingly toneless:there is no H when attached to a L stem

(13)

ʊmʊʊ-ndʊ	'person'	avaa-ndʊ	'people'
ʊmʊ-gera	'river'	ɪmi-gera	'rivers'
ɪri-davaangɪrʊ	'badly-made pot'	ama-davaangɪrʊ	'badly-made pots'
ɪkɪ-haraato	'famine'	ɪvi-haraato	'famines'
e-ɲeengero	'beer pot'	ɪzi-ɲeengero	'beer pots'

H on prefix by LS

(14)

/ʊmʊ-kʊ́rʊ/	ʊmʊ́-kʊ́rʊ	'initiate'
/ɪri-dirísha/	ɪrí-dírísha	'windows'
/ama-gáraba/	amá-gáraba	'bean leaves'
/eke-kʊ́ómoori/	eké-kʊ́ómoori	'plant sp.'
/ɪ-darája/	í-dárája	'bridge'
/izin-déve/	izín-déve	'chairs'
/ʊrʊ-hágayʊ/	ʊrʊ́-hágayʊ	'hoof'

But some stems require autonomous H on the class prefix

(15)

/ɪ**kí**-fʊryá/	ɪkí!-fʊryá	'pan'
/**é**n-gokó/	é!n-gókó	'chicken'
/ɪ**rí**-bwóoni/	ɪrí!-bwóoni	'potato'
/a**má**-bwóoni/	amá!-bwóoni	'potatoes'
/ʊ**mʊ́**-yááyɪ/	ʊmʊ́!-yááyɪ	'boy'
/ʊ**vʊ́**-cháafu/	ʊvʊ́!-cháafu	'dirtiness'
/e**ké**-seegéra/	eké!-séégéra	'eye swelling coming from spell by dogs'
/ʊ**vʊ́**-nyeegéri/	ʊvʊ́!-nyéégéri	'itch'

This is a lexical property of some noun roots: how is the distinction represented in the root? Why is this only found when there is a second H?

Other lacunae

(16)

*ɪkí-vanatu	prefix H with no other H
*eke-sememé ~ eké-sémémé	H only on the final vowel
*eke-severéta	H only on the penult of 4-syllable or longer word
*ɪkɪ-bí!ní!má	three Hs

Nouns have 0, 1 or 2 H tones

(17)

L	no H at all	H	1 H, stem-initially; lexical split on long penult between level H and Fall Plus a minor V_2 single-H pattern.

HH#	Final H + H on prefix / stem initial
HH	penult H + H on prefix / stem-initial. Lexical split on long penult between level H and Fall

(18) L: 25% of nouns (nb rarely V-initial)

ɪkɪ-gʊrʊ	‘hill’	ɪ-nyuundo	‘hammer’
ɪkɪ-haraato	‘famine’	e-geengere	‘bell’
ɪkɪ-vʊʊzʊʊzi	‘whirlwind’	eke-heregete	‘measles’
ɪn-dʊvɪri	‘colobus monkey’	ɪvi-goongomello	‘paraphernalia’

(19) H: 42% of nouns

e-béde	‘ring’	ʊvʊ́-chíma	‘ugali’
ɪ-dááywa	‘rooster’	ʊvʊ́-yúúsi	‘corn silk’
eké-kéreko	‘potash sieve ’	ʊmʊ-rógoori	‘Logoori’
ɪ-kááyoongo	‘weed’	e-béénzeni	‘wash basin’
ɪ-báákoora	‘cane’	ʊmʊ-nákɪvara	‘non-Logoori’
í-náángʊrʊka	‘ugali pot’	ʊmw-íísʊkʊrʊ	‘grandchild’

Lexically-determined difference between level H and Fall

(20) Level H: > 75% (of CVVCV single H)

ama-géénga	‘embers’	amá-hʊʊ́rʊ	‘desire to meet s.o’
eke-bóóko	‘cattle guide’	e-véémbe	‘grass’
ɪ-bʊʊ́nda	‘donkey’	ɪ-dááywa	‘rooster’
ɪkɪ-búúsi	‘cat’	ɪkí-dʊʊ́ndʊ	‘bamboo plant’

Fall: < 25% (of CVVCV single H)

ɪ-híiri	‘clan’	aḿ-béere	‘milk’
eké-róori	‘heifer’	é-ng’éende	‘jigger’
ɪkɪ-tʊ́ʊmi	‘mound’	ɪm-báande	‘dove type’

Unclear right now how *to deal with this. Bigger-picture issue: idiolectal variation where F → H optionally, randomly everywhere*

V_2 H tone: 2% of the lexicon (*almost entirely CVCVCV loan roots*)

(21)

ʊm-féréji	‘water tap’	í-návódo	‘drum’
í-súgúdi	‘conga drum’	í-dágíga	‘minute’
ɲasáaye	‘God’	(also ɲasáye)	
ama-bárábaande	‘loquat’		

CV H roots: tone splitting or leftward hopping
Not a general phonetic process: something special about prepausal lexical *H* (*not melodic H*)

(22) Final H = initial H in CV roots

amá-rwá ~ amá!-rwá ~ amá-rwa	'alcohol'	ama-rwá vʊza	'only alcohol'
ʊvʊ́-tá ~ ʊvʊ́!-tá ~ ʊvʊ́-ta	'bow'		
ím-bwá ~ í!-mbwá	'dog'	ɪm-bwá ndara	'1 dog'
amá-chí ~ amá!-chí ~ amá-chi	'heels'		

(Leftward Spread as expected. Tone copy to penult? Shift to penult?)

Double-H nouns

Location of H_2 is lexically specified (final or penult)
Location of H_1 is predictable, given that

(23) HH#=14% of the lexicon

H_1 stem initial with longer stems

eké-mé!nénwá	'cartilage'	ɪzim-bá!rʊ́ká	'cooked bananas'
ɪ-ná!máárá	'tick'	oro-séé!ng'éengé	'barbed wire'
ɪrí-jíí!kóró	'crow'	ɪkɪ-dúú!kúúrá	'chicken flea'
ama-sí!ríngókó	'chicken droppings'	eké-dó!vóngóryó	'pool of water'
eké-kóó!mámóólí	'ringworm'	ɪkɪ-síí!mbííkírá	'whydah'

H_1 is pre-stem with disyllabic stems

é!n-gókó	'chicken'	í!n-dámá	'tobacco plant'
ɪkí!-fóryá	'pan'	ʊmʊ́!-zúné	'sunbird'
ʊrʊ́!fʊ́nʊ́	'tether'	ʊrʊ́!-dááng'á	'cattle-herding stick'
ɪkí!-fwóóyó	'rabbit'	ɪrí!-ng'ááng'á	'hadada ibis'

(24) HH=4%
Penult H ~ F lexically determined
Location of left-edge H depends on stem prosody

(25) Two syllables: H_1 is pre-stem. Always CVVCV (*CV́-!CV́CV)

ɪrí!-bwóoni	'potato'	ʊvʊ́!-cháafu	'dirtiness'	í!n-jʊ́ʊgʊ	'peanut'
ʊmʊ́!-yááyɪ	'boy'	ʊḿ!-stáári	'line'	ɪrí!-tʊ́ʊ́nda	'fruit'

Trisyllabic stems: H_1 is prestem or initial, depending on penult length
Short penult: H_1 is pre-stem

(26)

í!n-dʊ́gʊ́nyi	'ant sp.'
ʊmʊ́!-ndéréva	'driver'
ɪrí!-dágálla	'grasshopper'
ʊvʊ́!-nyéégéri	'itch'
ɪrí!-káánzíra	'sp. greens'
eké!-séégéra	'eye swelling '

Long penult (fall or level): H_1 is stem-initial

ɪri-dá!ráamu	'drum'	ɪri-tó!fáali	'brick'	vʊ́-tá!jíiri	'riches'
ɪri-chí!llóóndo	'bird sp.'	ʊm-fá!ráánza	'Frenchman'	ɪch-áá!ndáángʊ	'back door'

With stems of 4 syllables or more, H_1 is always stem-initial

(27)

ɪri-ká$^{!}$rádáasi	‘paper’	eke-mé$^{!}$réméende	‘candy’
ɪm-bá$^{!}$rábára	‘road’	eké-hé$^{!}$ɲáhéɲe	‘contempt’
ɪ-tá$^{!}$pyórééta	‘typewriter’	ɪkɪ-bí$^{!}$ráóóni	‘small clay bowl’

Unifying generalization: H_1 links to a toneless stem-initial syllable if it is not immediately followed by a short H-toned syllable

Un-prefixed HH# trimoraic class 1a stems: final H only
With a prefix: pre-stem and final H as usual

(28)

guugá	vá-$^{!}$gúúgá ~ váá-$^{!}$gúúgá	‘grandfather’
baabá	vá-$^{!}$báábá ~ váá-$^{!}$báábá	‘father’
koozá	vá-$^{!}$kóózá ~ váá-$^{!}$kóózá	‘uncle’
ofisá	va-ó$^{!}$fisá	‘officer’
m̀-shaará ~ ʊ́ḿ-$^{!}$sháárá	vá-$^{!}$sháárá ~ váá-$^{!}$sháárá	‘cousin’

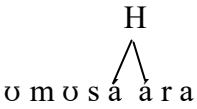
*gú$^{!}$úgá, *ó$^{!}$fisá, *ḿ$^{!}$sháárá

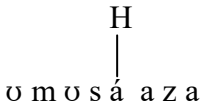
4. Warts

Now, what about penult H vs Fall?

(29)

ʊmʊ-sáára	‘tree’	ʊmʊ-sáaza	‘man’
ʊmʊ́$^{!}$-yááyɪ	‘boy’	ɪrí$^{!}$-bwóoni	‘potato’
ʊm-fá$^{!}$ráánza	‘Frenchman’	ɪri-dá$^{!}$ráamu	‘drum’
e-pé$^{!}$téróóri	‘petrol’	ɪri-ká$^{!}$rádáasi	‘paper’





Lexical contrastive association of H within a long initial syllable?

(30)

/ʊmʊ-saára/	‘tree’	/ʊmʊ-sáaza/	‘man’
/H ʊmʊ-yaáyɪ/	‘boy’	/H ɪri-bwóoni/	‘potato’
/H ʊmʊ-faraánza/	‘Frenchman’	/H ɪri-daráamu/	‘drum’
/H e-peteroóri/	‘petrol’	/H ɪri-karadáasi/	‘paper’

The contrast exists even where there are no underlying long vowels – stem initially
/V+V/ → [V:]

(31)

ʊmw-áana	‘child’	ʊmw-áámi	‘chief, officer’
ʊm-ʊ́ʊnyʊ	‘seasoning’	ʊrw-ááchi	‘enclosure’
ʊmw-éeri	‘month, moon’	ʊmw-óógo	‘cassava’
vw-ɪ́ɪnʊ	‘ink’	ʊmw-íífa	‘nephew, niece’

Maybe nouns exceptionally can *have initial long vowels?*

(32)

/áana/	‘child’	/(a)ámi/	‘chief, officer’
/ʊ́ʊnyʊ/	‘seasoning’	/(a)áchi/	‘enclosure’
/éeri/	‘month, moon’	/(o)ógo/	‘cassava’
/ɪ́ɪnʊ/	‘ink’	/(i)ífa/	‘nephew, niece’

Cl. 11-10 nouns have expected lengthening only after CV class prefix
If these stems have long vowels, why is the vowel short in the plural?

(33)

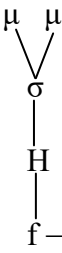
ʊrw-íɪga	'horn'	ízínz-íga	'horns'
ʊrw-áana	'childishness'	ɪzínz-ána	'childishnesses'
ʊrw-áako	'boundary'	ɪzínz-áko	'boundaries'
ʊrw-íɪmbʊ	'song'	ɪzíɲ-ímbʊ	'songs'
ʊrw-ááchi	'enclosure'	ɪzínz-áchi	'enclosures'
ʊrw-áása	'gap in teeth'	ɪzínz-ása	'gaps in teeth'

Cl. 1 → adj derivation

(34)

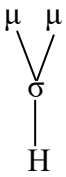
a.	ʊmʊ-doto	'infant'
	ʊrʊgaga ro-doto	'soft fence'
	zindéve zi-ndoto	'soft chair'
	ʊmʊ́!-hááyá	'Haya'
	ɪmívánó ímí!-hááyá	'Haya knives'
	eng'óómbé í!-mbááyá	'Haya cow'
b.	ʊmw-áana	'child'
	misáárá !my-áana	'young trees'
	ímbwá !ínz-ána	'young dog'
	ʊmw-áámi	'chief'
	ɪkígúútí ch-áámi	'chief field'
	ɪnyʊ́ʊ́mba ɪnz-ámi	'royal house'
	ʊmw-íivi	'thief'
	éng'óómbe ínz-ívi	'thief cow'
	ékémʊ́órí ch-íivi	'thief calf'

ʊ r ʊ - ɪ g a



f → Ø if short or pre-penult

ʊ r ʊ - a ch i



The Spurious-H problem: a subset of H nouns that gain final H phrasally

Invariant single stem-initial H

(35)

a.	ʊm-rógoori	'a Logoori'
	avar-ógoori mia móója	'100 Logoori'
	akoonyi ava-rógoori vwaangʊ	'he helped the Logooris quickly'
	ʊmʊ-róogori vʊza	'only a Logoori'
	ava-rógoori amsíini	'50 Logoori'

Second H in stem clearly because of LS

b.	ava-ró!góórí ámsíini	'50 Logoori'
	ava-ró!góórí vʊ́zá váá!kókoonyi	'only the Logooris have helped us'
	ʊmʊ-ró!góórí mtáámbɪ	'tall Logoori'
	mbooll_aava-ró!góórí gʊ́rízí ʊ́mgádi	'I told the Logooris "sell the bread!"'
	ʊm-ró!góórí n_ʊ́mwáángʊ́ dáave	'the Logoori is not quick'

Similar nouns

(36)

ɪ-míísheni	‘mission’	ɪ-míísheni vʊza	‘only a mission’
mu-nákɪvara	‘non-Logoori’	mʊ-nákɪvara mʊlla	‘1 non-Logoori’
óófisi	‘office’	óófisi vʊza	‘only an office’
ʊmw-íísʊkʊrʊ	‘grandchild’	ʊmw-íísʊkʊrʊ mʊlla	‘one grandchild’
ri-kááfʊri	‘padlock’	ɪri-kááfʊri llitu	‘heavy padlock’
ʊmʊ-sáájeni	‘sergeant’	ʊm-sáájeni ʊmwaangʊ	‘quick sergeant’

Nouns that gain a second H before a toneless word: the Spurious-H subset

(37)

a.

ʊmw-íídako	‘Idako’
vav_aav-íídako	‘they are Idakhos’
kɪr_ʊmw-íídako	‘every Idakho’

H in the noun because of LS

b.

mw-íí¦dákó ḿtáámbɪ	‘tall Idakho’
mw-íí¦dákó mʊ́ráhi	‘good Idakho’
av-íí¦dákó n_áváráhɪ	‘the Idakhos are good’
av-íí¦dákó vááríma	‘the Idakhos plowed’
av-íí¦dákó váné	‘4 Idakhos’

☞ *No good reason for this second H*

c.

ʊmw-íí¦dákó mʊlla	‘1 Idakho’
ʊmw-íí¦dákó vʊza	‘just Idakho’
av-íí¦dákó vara	‘those Idakho’

Similar nouns

(38)

ekes-é¦gésé vʊza	‘roof peak only’	ke-ségese	‘roof-peak’
kʊ́ké-sé¦gésé kííndí	‘different peak’	eke-sé¦gésé kɪlla	‘one roof peak’
ɪkɪ-dáhɪrʊ	‘dipper’	ɪkɪ-dá¦hírʊ́ kɪlla	‘1 dipper’
ɪri-gáraba	‘bean leaf’	ɪri-gá¦rábá llara	‘1 bean leaf’
ama-gá¦rábá máráhi	‘good bean leaf’	ama-gá¦rábá maangʊ	‘light bean leaves’
ama-gá¦rábá gára	‘those bean leaves’	amá-gá¦rábá sítíini	‘60 bean leaves’

HH# nouns: two H’s everywhere

(39)

ʊm-bʊ́¦gʊ́sʊ́	‘Bukusu’	ʊm̀-bʊ́¦gʊ́sʊ́ mʊlla	‘1 Bukusu’
ʊm-bʊ́¦gʊ́sʊ́ mwaangʊ	‘quick Bukusu’	ava-vʊ́¦gʊ́sʊ́ ¦vávírí	‘2 Bukusu’
avá-vʊ́¦gʊ́sʊ́ ¦sábá	‘7 Bukusu’	ava-vógʊs_á¦víingɪ	‘many Bukusus’
ava-vógʊ́¦sʊ́ vara	‘those Bukusus’		
avá-vʊ́¦gʊ́sʊ́ ¦váárɪma	‘the Bukusus plowed (stative)’		

Similar nouns

(40)

rʊ-háá¦ngáywá	‘cave’
rʊ-háá¦ngáywá llara	‘1 cave’
rʊ-háá¦ngáywá ¦róhéne	‘big cave’
ɪri-jíí¦kóró	‘crow’
ɪri-jííkoró vʊza	‘crow only’
ɪri-jíí¦kóró tayáari	‘ready crow’

ʊm-kí¦kóyó ‘Kikuyu’
m-kí¦kóyó mʊlla ‘1 Kikuyu’
ʊm-kí¦kóyó ¦mtáámbɪ ‘tall Kikuyu’

kɪ-dúú¦kúúrá ‘chicken flea’
kɪ-dúú¦kúúrá chaangʊ ‘fast chicken flea’
kɪ-dúú¦kúúrá kenéne ‘big chicken flea’

Three behavioral classes

(41)

CV-CV́CVCV##	CV-CV́CVCV# L H	CV-CV́CVCV# L	= (35)
CV-CV́¦CV́CV́##	CV-CV́¦CV́CV́# L H	CV-CV́¦CV́CV́# L	= (39)
CV-CV́CVCV##	CV-CV́CVCV# L H	CV-CV́¦CV́CV́# L	= (37)

The big puzzle: what distinguishes these lexical subsets?
Some possibilities:

(42) CV́CVCV = H; CV́¦CV́CV́ = H′ + *linked* final H; variable CV́CVCV = H′ **H′**

H	H H	H H
rogoori	vʊgʊsʊ	idako

CV́CVCV = H **L**; CV́¦CV́CV́ = H H# ; variable CV́CVCV = H

H L	H H	H	(H←Ø before L word)
rogoori	vʊgʊsʊ	idako	

Synopsis
1: Noun stems can have up to two underlying Hs
2: The location of the last H is lexically specified
(*eke-kéreko* vs. *ɪ-dagíga; ʊmʊ́¦-yááyɪ* vs. *ɪkí¦-fwóóyó*)
3: The first H in a 2-H stem maps by rule either to the first stem syllable, the pre-stem syllable, or deletes.
4: Phonological Hs divide into two subtypes, level and falling. Proposal:

σ	σ
H	H
	fall → Ø by Fall Simplification, or context free optionally

The original question: how much *cannot* just be stored in the lexicon?
The answer: location of H_1 in double-H nouns

(43) *H_1 association*

H′ H
[σ′ ~ σ
μ

(complement notation: “and not…”)

Hardcore puzzles

(44) The V́-CV́ ~ V́-ꜜCV́ ~ V́-CV alternation in CV H nouns

The spurious H problem

Analysis impeded by considerable variation

CV́ problem needs unification with verb tone patterns

Spurious H mechanics connected to grammatical H in certain NP contexts? See H ~ Ø alternation on demonstratives –

H	ava-rógoori vára	‘those Logooris’
Spur-H	ama-gá!rábá gára	‘those bean leaves’
HH#	ava-vó!gósó vara	‘those Bukusus’
L	ɪzin-dóóngóózi zira	‘those peaks’