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1. Introduction

Some of the basics of Logoori tone were covered in X, in the context of explaining phonetic transcriptions. In this chapter, these points are covered in more detail, this time with an emphasis on the contexts where the particular phonological rule applies, having previously settled on the distinction between true phonological rules versus principles of phonetic implementation. This is most relevant to the question of Leftward Spreading *qua* phonological rule vs. phonetic detail.

1.1. Leftward Spread

Leftward Spread is a ubiquitous rule of Logoori tonology. The general rule is that any H tone spreads as far as it can to the left, stopping when another H is encountered, but also stopping under other circumstances. Downstep (lowering of pitch register) then separates the two H tones. This process takes place within words and between words, therefore we begin with phrasal combinations of words that illustrate LS. First we consider structures with only one H, which spreads to preceding words. The examples below involve sequences of various all-L words followed by a word having a H.

omoundu	‘person’
moritu	‘heavy’
móráhi	‘good’
omoundu moritu	‘heavy person’
ómóondó mórítú móráhi	‘good, heavy person’
maheengere	‘bean-maize food’
maheengere maangu	‘light mahengere’
maheengere maangu moroju	‘light mahengere in a saucer’
máhééngéré máángú mórójú mónéne	‘light mahengere in a big saucer’

kugura	‘to buy’
zing’oombe	‘cows’
kugura zing’oombe zinditu	‘to buy heavy cows’
kógórá zíng’óómbé zíndítú zíndáhi	‘to buy good heavy cows’

kugulla	‘to buy for’
kugulla marova	‘to buy for Marova’
kugulla marova ekemoori	‘to buy a calf for Marova’
kugulla marova ekemoori vwaangu	‘to quickly buy a calf for Marova’
kógóllá máróvá ékémóórí gáráha	‘to slowly buy a calf for Marova’

aragorizira marov-eeng’oombe vwaangu	‘he will sell the cow to Marova soon’
arágórízirá máróv-íimbúri	‘he will sell the goat for Marova’

ni vwaangu marova korora	‘it is easy for Marova to see’
ní wááángú máróvá kwíimba	‘it’s easy for Marova to sing’
ní wááángú máróvá kórór-ómkáráji	‘it is easy for Marova to see the judge’
ní wááángú máróvá kórór-ízíng’óómbé dáave	
‘it not easy for Marova to see the cows’	
ni vwaangu marova kúvarízír-avand-ízíng’oombe	
‘it is easy for Marova to count cows for the people’	
ní wááángú máróvá kóvarízír-ávánd-ízíng’óómbé dáave	
‘it is not easy for Marova to count cows for the people’	

Further examples show spreading of H up to the syllable that immediately follows a H tone, and the appearance of downstep where the two Hs meet. Multiple downsteps can arise when multiple Hs come in contact.

mbéére	‘milk’
mbéé ¹ ré máráhi	‘good milk’
mwíidako	‘Idakho person’
mwíí ¹ dákó móráhi	‘good Idakho’
mkóónzakari	‘widow’
mkóó ¹ nzákári mntáámbr	‘tall widow’
matíginyu	‘heels’
matíginyu malla	‘some heels’

matí ¹ gínyú mállá mánéne	‘some big heels’
kováchoolla	‘to draw for them’
ková ¹ chóóllá éng’é rengani	‘to draw a star for them’
ková ¹ chóóllá éng’é ¹ réngání índáhi	‘to draw a good star for them’
varakagillizi korima	‘they will try to cultivate’
várakágíllí ¹ z ¹ kóvéga	‘they will try to shave’
varakagillizi korima vwaangu	‘they will try to cultivate quickly’
várakágíllí ¹ z ¹ kóvéga vwaangu	‘they will try to shave quickly’
várakágíllízi kórímá gáráha	‘they will try to cultivate slowly’
várakágíllí ¹ z ¹ kóvé ¹ gá gáráha	‘they will try to shave slowly’
várakágíllízi kórímírá máróvá gáráha	‘they will try to cultivate for Marova slowly’
várakágíllí ¹ z ¹ kóvé ¹ gérá máróvá gáráha	‘they will try to shave slowly’
várakágíllízi kórímírá víí ¹ dákó gáráha	‘they will try to cultivate for the Idakhos slowly’
várakágíllí ¹ z ¹ kóvé ¹ gérá víí ¹ dákó gáráha	‘they will try to shave for the Idakhos slowly’

arásíinzira marov-eeng’oombe vwaangu
‘he will slaughter the cow for Marova quickly’
arásí¹nzirá máróv-ééng’óómbé gáráha
‘he will slaughter the cow for Marova slowly’

ni vodínyú marova korora
‘it is hard for Marova to see’
ni vodínyú marova koror-izing’oombe
‘it is hard for Marova to see the cows’
ni vodínyú¹ máróvá kórór-ómkárají
‘it is hard for Marova to see the judge’
ni vodínyú¹ máróvá kórór-ízíng’óómbé dáave
‘it not hard for Marova to see the cows’
ni vodínyú marova kovarizir-avaand-izing’oombe
‘it is hard for Marova to count cows for the people’
ni vodínyú¹ máróvá kóvárízírá ávándú ízíng’óómbé dáave
‘it is not hard for Marova to count cows for the people’

We can also observe the LS alternation strictly within words, between a L toned prefix on a noun, adjective or verb and a following stem which contains a H tone. Prefixes in Logoori are all lexically L-toned, but will have H when the root that they are attached to has a H.

va-guru	‘powerful (cl. 2)’
ki-guru	‘powerful (cl. 7)’
va-ritu	‘heavy (cl. 2)’
ki-ritu	‘heavy (cl. 7)’

vá-ráhi	‘good (cl. 2)’
kí-ráhi	‘good (cl. 7)’
vá-néne	‘big (cl. 2)’
vá-néne	‘big (cl. 2)’
omó-rimi	‘farmer’
ómó-kári	‘woman’
omó-goye	‘rope’
ómó-kóyo	‘fig’
iri-vega	‘shoulder’
írí-gódo	‘skin’
ama-dome	‘bird feces’
ámá-rásiri	‘animal blood’
eke-mera	‘malt’
éké-déte	‘finger’
korika-haandiike	‘we will write’
kóriká-vége	‘we will shave’
varika-veezegere	‘they will belch’
váriká-sígame	‘they will kneel’

Leftward Spreading is not obligatory, and one can easily find examples where the rule does not apply, or applies to only some (contiguous) sequences of syllables.

mósáara, omósáara	‘tree’
korúga	‘to cook ugali’
kohéenza	‘to look for’
ebéde	‘ring’
rikáravati	‘culvert pipe’
ibarási, íbárási, íbárási	‘horse’
ibahásha, íbahásha, íbahásha	‘envelope’
ibíníka, íbíníka, íbíríga	‘kettle’

As demonstrated by the last three examples where the underlying H is on the third syllable, LS may apply not at all, once, or maximally.¹

While in principle a phrasal input like /amaheengere maráhi/ ‘good mahengere’ (or similar constructions with a H-toned adjective) is combinatorially capable of 7 distinct outputs for each of the successive targets of LS, there are only three attested options: *amahééngéré máráhi*, *amáhééngéré máráhi* and *ámáhééngéré máráhi*. Cross-word spreading to the beginning of the root, at least in N+adjective constructions where the noun is toneless, seems to be obligatory, and options only pertain to further spreading to the noun class prefix or the augment. However, further qualifications must be made regarding when non-application is or is not found.

The first context to consider is the combination of noun plus adjective, where the noun is all-L and the adjective has a H. In that context, LS applies at least up to the

¹ The three examples of ‘kettle’ come from different speakers, but the three examples of ‘horse’ come from the same speaker, EM.

beginning of the noun root. Therefore we find *amahéngéré márahi*, but not **amaheengéré márahi*, **amaheengeré márahi* or **amaheengere márahi*. Similar examples of “one-pattern”² phrases with L noun and H adjective are seen below.

mílyáángó ymbí	‘bad doors’
zínéngéro zínyíngi	‘many beer pots’
vásóórééri vágéri	‘smart youths’
víbúrúbúru vínyíngi	‘many butterflies’
kesógótó kénéne	‘big maize cob’
másyáámógómá mányíngi	‘many geckos’
rísyáámógómá ríkóméru	‘fat gecko’
mógóyé mú ¹ gúundú	‘rotten rope’
mágóké mámwaám	‘black ashes’
mbíri mbáá ¹ mbáló	‘wide body’
msóórééri mǒng’élle	‘slim youth’
ávákóóngó vá ¹ mwaámó	‘black bosses’
ávákóóng-ávánéne	‘big boses’

We then start to understand the conditions on LS by understanding that there are certain “stopping points”: you can’t stop in the middle, but you can stop at a stopping point. Root-initial position is one stopping point, the syllable of the noun class prefix is another.

Next we consider LS when the noun has a stem-initial H. This inquiry is complicated by the fact, discussed below, that for a number of speakers, polysyllabic H noun stems may be subject to a separate rule of “spurious H insertion”. The stem of *iriságati* ‘maize stalk’ has an initial H, and for some speakers – very frequently for EM – it gains a final H in NP-medial position, e.g. *amaságati voza* ‘only stalks’, *iriságati¹ rítáámbrí* ‘long stalk’. This is independent of LS, and effectively thwarts spreading into the noun (in instances where it applies), which makes it more difficult to identify cases of non-spreading when the noun has an initial H tone. Excluding this complication, we observe below a majority pattern where H spreads from the adjective as far to the left as it can, and a minority pattern where it does not. The first set of examples involves the sole known adjective that has H on V2.

vwóó ¹ ngó vókóméru	‘fat brain’
vidé ¹ té víkóméru	‘fat fingers’
idáá ¹ ywá éngóméru	‘fat rooster’
í ¹ ngóró ¹ vé íngóméru	‘fat pig’
msáá ¹ zá mkóméru	‘fat husband’
kibá ¹ gá kékóméru	‘fat cat’
ddéemooni rikóméru	‘fat demon’
umkóónzakarí umkóméru	‘fat widow’
máfeedéré makóméru	‘fat termites’
kibága kikóméru	‘fat cat’

² That is, combinations where there is only one pattern w.r.t. to spreading at least to the left edge of the root.

The last example above is the sole case in the corpus where H does *not* spread at least from V2 to stem-initial position within the adjective. Otherwise, we observe an all-or-nothing pattern of spreading – either H spreads only to stem-initial position in the adjective, or it spreads maximally to the left. The analogous examples below, where the adjective has a stem-initial H, again shows two options: no spreading, and maximal spreading. Examples below are limited to disyllabic stems, since longer stems run into the complication of “spurious H”. LS usually applies as far as possible.

mwóó ¹ gó m'baá ¹ mbálló	‘wide cassava’
myóó ¹ gó mínyíngi	‘many cassavas’
myóó ¹ gó mívísí	‘raw cassavas’
mórí ¹ ná mó ¹ mwáámó	‘dark friend’
mórí ¹ ná móhóóma	‘gentle friend’
varí ¹ ná vákóro	‘old friends’
mkáá ¹ ná ímáje	‘a known girl’
vákáá ¹ ná váráhi	‘good girls’
vakáá ¹ ná ványíngi	‘many girls’
mkáá ¹ ná líkómi	‘10 girls’
mkó ¹ nó móróóngi	‘right hand’
mikó ¹ nó sába	‘seven hands’
mósáá ¹ rá mónéne	‘big tree’
misáá ¹ rá myóómu	‘dry trees’
mísáá ¹ rá myáá ¹ kányó	‘red trees’
rígó ¹ tó rihóó ¹ rérézó	‘gentle village elder’
magó ¹ tó mágéri	‘wise village elders’
vaká ¹ rí vánéne	‘big woman’
magó ¹ tó márahi	‘good elders’
vuchí ¹ má vóvísí	‘raw ugali’

Some examples are found where there is no spreading (between the adjective and noun: there is also variation in the adjective stem, for adjectives with two Hs).

vuchíma voráhi	‘good ugali’
mokáána mokó ¹ bání	‘a fighting girl’
mkáána mó ¹ mwáám	‘dark girl’
m'kóno m'baá ¹ mbálló	‘wide hand’
misáára mímwaaamó	‘black trees’
ígísáára kí ¹ dúúhú	‘blunt stick’
myóógo myóómu	‘dry cassavas’

Separate consideration has to be given to trisyllabic and longer nouns with stem-initial H, which are implicated in the “spurious H” issue. We find more examples of non-spreading in that context. In the first set of examples, there is spreading throughout the noun, in the second there is none – note that the noun roots of the two sets overlap.

ná ¹ kídárí énéne	‘big bedroom’
gesé ¹ gesé kénéne	‘big roof peak’
víí ¹ sókóró vásáá ¹ ngááí	‘happy grandchildren’
varó ¹ góórí vánífu	‘dressy Logooris’
mará ¹ sírí máráhi	‘good animal blood’
ná ¹ kídárí énéne	‘big bedroom’
ddéé ¹ móóní énéne	‘big demon’
keré ¹ rémó kénéne	‘big flat land’
amará ¹ sírí ámáráhi	‘good animal blood’
ekeré ¹ rémó kíráhi	‘good flat land’
kísá ¹ gányí kítáámbr	‘long leaf bundle’
masá ¹ gátí mátaámbr	‘long stalks’
masá ¹ gátí mányíngi	‘much maize plant detritus’
mákídari énéne	‘big bedroom’
ekeségese kítáámbr	‘tall roof peak’
nákídari ndáámbr	‘long bedroom’
mwíisokoro mtáámbr	‘tall grandchild’
varógoori vííngi	‘many Logoori’
mrógoori msáákuru	‘old Logoori’

Within-word application of LS generally follows the pattern seen above, that the rule may or may not apply. Consideration of word-internal position needs to be divided according to word class: lexical nouns, and verbal constructions. The internal-spread pattern of lexical nouns are discussed in greater detail in Q. In general, nouns may lexically have one or two underlying Hs, following a pattern focused primarily on the location of the last (only) H plus rules positioning the first H in a two-H noun. A single H can appear lexically on the first or second stem vowel, which defines at most four extents of spreading for V2-H nouns and three for stem-initial.

ibahásha, íbáhásha, íbáhásha	‘envelope’
avarógoori, avárógoori, ávárógoori	‘Logoori people’
rídírísha	‘window’
íddíríísa	‘window’
kórídírísha	‘on a window’
irídírísha	‘window’
godírísha	‘window-aug’
iddírísha	‘window’
iridírísha	‘window’
akadirísha	‘tiny window’

The most common pattern is that H spreads at least to stem-initial position, and spreads at least to the noun class prefix. Spreading to the augment (for speakers who retain the augment) is uncommon. The reason for this restriction from the augment is that the augment is underlyingly H toned; the variation arises from considering vs. ignoring the fact that that syllable had a H toe. V2-H nouns are uncommon and generally are in class

9-10 which has no class-prefix vowel: the most common pattern for *ibárási*-type nouns is [ibárási] then [íbárási] by a ratio of approximately 2/3.

As for stem-internal spread of the second H in double-H nouns like *omwíí' millí* 'leader', *irikó' dómání* 'liver', *ikihí' rámití* 'hawk sp.', *irikuuré* 'owl', *ikímóóná* 'squirrel' or *ikidúúkuurá* 'chicken flea', we find that final H generally spreads maximally to the left, but there is an apparent minor tendency attested in some tokens that the final H does not spread from final position to a long penult. There is no evidence that specific lexical items are marked for their behavior, thus the lack of any token of [índaáǵá] is not considered significant, since failure of spreading is a low-frequency trend and *í' ndááǵá* is a low-attestation noun.

<i>kí' móóná</i> , <i>ikímóóná</i> (rare)	'squirrel'
<i>om' bí' sáándó</i> , <i>om' bísaandó</i> (rare)	'orphan'
<i>má' máára</i> , <i>inámaará</i> (rare)	'tick'
<i>gékóó' mbámóólí</i> , <i>gékóómbamoolí</i> (rare)	'ringworm'
<i>vódúú' kóóra</i> , <i>vodúúkuurá</i> (rare)	'chicken fleas'
<i>móó' náandí</i> , <i>móónaandí</i> (rare)	'Nandi'
<i>má' róótó</i>	'dreams'
<i>í' ndááǵá</i>	'newborn'
<i>kí' míǵó</i>	'chick'
<i>ikísíí' mbííkirá</i>	'pin-tailed whydah'
<i>omwíí' yáángó</i>	'opportunity'
<i>ovógó' yáánó</i>	'confusion'

This pattern of optional non-spreading in double-H nouns with a long penult is also found with adjectives, and again tokens without spreading are less frequent than ones with spreading

<i>íǵámá' í' ngúúndú</i>	'rotten animal'
<i>móǵá' dí' mó' gúúndú</i>	'rotten bread'
<i>mavó' yó' máguundú</i>	'rotten eggs'
<i>íǵámá' íng' ʊondó</i>	'rotten meat'
<i>gótó' gó' mwáámó</i>	'black ear'
<i>kérééngé' kí' mwáámó</i>	'black leg'
<i>mágóké' mámwaám</i>	'black ashes'
<i>rogúúchí' rómwaám</i>	'black dust'
<i>íǵámá' í' ndééké</i>	'cooked meat'
<i>má' gónyá' má' dééké</i>	'cooked bananas'
<i>é' ngóóndó' éndeeké</i>	'cooked banana flower'
<i>zínǵózá' zindeeké</i>	'cooked vegetable'
<i>gekóó' mórí' ké' ráámbá</i>	'whole gekomori'
<i>mábánó' mó' ráámbá</i>	'whole knife'
<i>váándó' váraambá</i>	'whole people'
<i>má' gómyá' máraambá</i>	'whole bananas'

The above option of non-spreading only occurs if the penult is long.

omó ¹ dóyá	‘mashed beans’
irí ¹ gómyá	‘banana’
irí ¹ kéré	‘frog’
amá ¹ rará	‘banana straw’
íkí ¹ föryá	‘pan’
í ¹ ngánó	‘wheat’
é ¹ ngókó	‘chicken’
izí ¹ mbógá	‘amaranthus’
ombó ¹ gósú	‘Bukusu’
omoké ¹ réká	‘potash’
iridá ¹ varyá	‘muddy water’
ekémé ¹ nénwá	‘cartilage’
imbá ¹ riká	‘jealousy’
izimbá ¹ róká	‘unmashed cooked bananas’
iríkó ¹ dómání	‘liver’
íkihí ¹ rámití	‘small hawk sp.’
iridáá ¹ ndárwá	‘tent canvas’
iríjí ¹ kóró	‘crow’
íkihóó ¹ ngírá	‘vegetable’
kísí ¹ góró	‘wallet’
iná ¹ mbárú	‘ant sp.’

Word-internal LS in verbs is more complicated, involving the system of melodic tones discussed in Q. In those tenses such as the infinitive and immediate future which follow the M1 tone pattern, any H in stem-initial position spreads optionally to the preceding prefix(es), but spreading is not common. The future formed with the prefixes *ri-ka* plus final /-ɪ/ provides the greatest range of possibilities for spreading, since the stem can be preceded by up to three syllables. Thus we find all four patterns of spreading in this form – maximal spreading in *várikádééke* ‘they will cook’, omitting one syllable in *varikáchéeye* ‘they will sweep it’, two syllables in *varikákóvege* ‘they will shave us’ and no spreading in *varikavége* ‘they will shave’. Out of 250 relevant examples, 60% are of the last type and have no spreading. The remaining 40% have spreading once, twice or three times, distributed more or less evenly.

The immediate future with *-ra-*, where there are 620 relevant examples, presents fewer options, ranging from spreading to 2 syllables (*kórávégana* ‘we will shave e.o.’), 1 syllable (*koráchéveva* ‘we will be late’) or no spreading (*koraförvanya* ‘we will eat gluttonously’), has a similar distribution where no spreading is the majority pattern (70%), single spreading happens 25% of the time and double-application of LS accounts for 5% of examples. In the future with /-ri-...ɪ/ (196 relevant tokens), the most common pattern has no spreading (*arivóhoolle* ‘he will untie’) 88% of the time, single spreading (*varikóvege* ‘they will shave us’) 8% of the time and maximal spreading (*váridééke* ‘they will cook’) 4% of the time. The overall trend for these tenses is that no spreading is the preferred option and single spreading is preferred over maximal spreading.

On the other hand, the remote tense with the prefix /-a-/ assigns H to a non-final stem-initial vowel. In 220 examples, that H spreads leftward 88% of the time (*wáátívoka*

‘you answered’) and does not spread (*vaavóhoola* ‘they untied’) only 12% of the time – the opposite of the pattern with M1 tenses. The situation with the crastinal future tense (subjunctive) is harder to assess since there are many sub-variants especially regarding the pre-verbal complementizer. The stem tone pattern for this tense targets the second stem syllable, complicated with a rightward spreading rule from short σ_2 , thus *ni vaháángáárizane* ‘they will argue’, *na vavézégéaraange* ‘they will be belching’ and *na vadéékéránaange* ‘they will be cooking for e.o’. Targets for spreading within the verb are thus the first stem syllable and the subject prefix syllable. Spreading within the stem is virtually universal, there being only a few in 1,276 forms of non-spread such as *na va-goyáanye* ‘they will be disarranged’, *na v-aambókí* ‘they will cross’, *ma y-aanziilli* ‘he will lead me’. The latter two of these examples involve vowel-merger across the stem boundary, and examples like *na va-goyáanye* where the second stem syllable is preceded by an un-merged syllable without LS are very rare: all such known examples are as follows.

n-aahirítí	‘he will snore’
n-aahaandíikí	‘he will write’
na varakóóraange	‘they will be releasing’
ma vavohóólane	‘they will untie e.o’

It is probably not coincidental that the second stem syllable is H and thus rightward spreading does not apply in the above examples: however, long σ_2 is not a barrier to LS in this tense, and most often LS applies regardless of the length of σ_2 .

n-aaháándíikí	‘he will write’
n-aakáraange	‘he will fry’
na vaháángáare	‘they will argue’
vamaa vavóhóolle	‘they will untie’
n-aatáángáaze	‘he will announce’
n-aakáraange	‘he will fry’

It is an almost exceptionless rule that there is no spreading to stem-initial position when that syllable is formed from the merger of the subject prefix syllable and the root-initial syllable.

kímaa chiizórí	‘it will be full’
na yíimbí	‘he will sing’
na yooné	‘he will sin’
na kwáámbókí	‘we will cross’
na wíimbí	‘you will sing’
na yaambókí	‘he will cross a river’
na yeejé	‘he will look for’
na yeerémé	‘he will float’
na yigótí	‘he will be satisfied’
na yiikí	‘he will descend’
na veerémé	‘they will float’

nɪ yɪmbí	‘he will sing’
vamaa viingírí	‘they will enter’
vamaa viiníkí	‘they will ferment’

Spreading across the stem boundary is attested but is not common. Most of the attested examples are given below.

ma kisháágárwé	‘it will be sharpened’
má kísóóndóránywɪ	‘it will be spilled’
má vásáámbóráne	‘they will dismantle e.o’
má vásíróháre	‘they will be foolish’
m-áájágórí	‘he will run’
m-áásáámbórányɪ	‘he will dismantle’
n-ááháándíikɪ	‘he will write’
n-áásáámbórányɪ	‘he will dismantle’
ná kókíní	‘we will play’
ná kómínágé	‘we will stir’
ná vávéezégérane	‘they will repeatedly belch’
ná vályí	‘they will eat’

Spreading across the stem boundary of a V-initial stem is also allowed, though rare.

kɪmaa chíízórí	‘it will be full’
na hóómbákwé	‘at-it-16 will be built’
ná yíimbí	‘he will sing’
ná kwíimbí	‘we will sing’
ná mwíígórí	‘2p will open’

Another context to consider w.r.t. word-internal spreading is the M2 tone pattern, where H is assigned to the final vowel of H verbs but to the second vowel of L verbs. This pattern is attested in many tenses, though most of them have other complications which obscure the question of when H spreads. The persistive, progressive and indefinite future tenses have this pattern, and are relatively free of obscuring factors. In a set of 2,100 forms where there is the potential for LS to apply optionally, we find that 70% of the time, H spreads “as far as possible” within the stem. “As far as possible” means that there is no limit inside the stem for L verbs, though since the melodic H is assigned to the second stem vowel the only possible location to spread to is a short initial syllable. In the case of H verbs where H is assigned to the final syllable (though is deleted in certain contexts), the defining limit for spread is the *second* stem syllable – there is no spreading to stem-initial position in H verbs. The following examples are typical applications of LS in tensing following the M2 pattern.

<u>H verbs</u>	
kókɪ-rómáa	‘we are still biting’
kori-deeká	‘we will cook’
a-fuungóráa	‘he is opening’

ake-vodóng'ánaa	'he is still going around'
aki-karáángá	'he is still frying'
kuki-nyagóráa	'we are still running'

L verbs

ari-górá	'he will buy'
vaki-váríza	'they still count'
a-ng'éréng'anaa	'he is shining'

A systematic exception in the non-spreading of H to stem-initial position is when a vowel-initial L root syllable merges with a prefix vowel, in which case there is no spreading.

achaambóka	'he is still crossing'
achaavóranya	'she is still cutting up'
acheeyá	'he is still sweeping'
achiimílla	'he is still leading'
aryaambóka	'he will cross'

The vowel-initial verb exception accounts for most of the examples of under-spreading.

Failure of spreading to an initial CV syllable in a low verb is attested in L stems beginning with CVCVVC..., however there are only two such stems in the general cross-speaker corpus. The distribution of spreading vs. non-spreading in this context is roughly even.

ari-rakóóra	'he will release'
a-goyáánaa	'he is getting disoriented'
koke-goyáánaa	'we are still disorganized'
kori-rakóóra	'we may release'
o-rakóóraa	'you are releasing'
koke-góyáánaa	'we are still being disarranged'
ko-góyáánaa	'we are being disarranged'

Non-spreading in L roots with initial CVCVC... is occasionally attested, but is mainly limited to verbs with the progressive final vowel *-aa*. There are a very few examples of non-spread in other tenses (the selection below is nearly the entire set of attested examples).

agorízaa	agorízaa	'he is selling'
akororáa	akóróraa	'he is coughing'
aminágaa	amínágaa	'he is stirring'
agonáa		'he is sleeping'
akirimáa		'he is still plowing'
vakegavóranyaa		'they are still doling out'
ngomágomaa		'I am rolling'
kuriburúka		'we will fly'

variganáganaanga	‘they will be thinking’
varigoná	‘they will sleep’

There are a very few example of H verbs whose H does spread leftwards, but not all the way to the second stem syllable.

kw-aavorányáa	‘we are tearing up’
ku-chaaramíjá	‘we are still opening’
vaki-gíróng’anyá	‘they are still turning over’
ake-vodong’aná	‘he is still going around’
varinagoráángá	‘they will be running’

Such examples are rare enough that they might be disregarded as errors. Otherwise, final H in lexically H verbs generally spreads to the second stem syllable – it spreads maximally, with stem-initial position being an excluded position.

Over-spreading where H *does* spread into the first syllable of H verbs is also attested, again, rarely, the following being close to the entire set of examples.

a-kóméráa	‘he’s getting fat’
a-súgúmáa	‘he is pushing’
u-kárágáa	‘you are judging’
u-sígámáa	‘you are kneeling’
o-vódóng’anáa	‘you are going around’
u-gíróng’ányáa	‘you are inverting’
va-fónyíírízáa	‘they smell (something)’
u-sóóndórányáa	‘you are pouring’
u-tóóngámíjáa	‘you are turning upside down’
kiki-fóóngórwa	‘it is still being opened’
vaki-gíróng’anyá	‘they are still inverting’
ari-vóhóóllá	‘he will untie’
kori-vórógá ¹ nyá	‘we will mix up’

The other class of over-spreading cases accounts for about 4% of the M2 verb tokens, and is composed of cases where H spreads all the way to the beginning of the verb word.

H verbs

kóritóóngámíjá	‘we will invert’
kórivógórá	‘we will receive’
áriígótá	‘he may be satisfied’
kórichéérízá	‘we will greet’

L verbs

kórigánágana	‘we will think’
kórhíírnta	‘we will snore’
kóribóróka	‘we will fly’
kóriyává	‘we may dig’

kóriyéénga	‘we may brew’
<u>H verbs</u>	
áchéérízáa	‘he is greeting’
ákámátáa	‘she is catching’
kókéráa	‘we are milking’
kóháángááráa	‘we are arguing’
kókáráa	‘we are slicing’
ótéézáa	‘you are burying’
vátóóngámínáa	‘they are inverting’
yáágáa	‘he is scratching’
<u>L verbs</u>	
ágósáa	‘she is lacking’
ágóráa	‘he buys’
aháánzokaa	‘he is shouting’
vóóngáa	‘they are joining’
<u>H verbs</u>	
áchóónónyá	‘he is still messing up’
ákékévá	‘he is still circumcising’
ákévóhóóllá	‘he is still untying’
kókikaráángá	‘we are still frying’
<u>L verbs</u>	
akévéérella	‘he is still getting sad’
ákégósánaa	‘he is still disagreeing’
kókérórá	‘we are still seeing’
ókégóná	‘you are still sleeping’

In summary, we find ample evidence for LS applying within the word, but it is a complex matter to determine exactly when the rule does vs. does not apply. The main tendency is that there *is* spreading, but the pattern of application involves limited options to stop spreading. Stem vs. word-initial positions are prominent in this equation, and the deletion site where a H used to be present especially figures into verbal application of LS. Given the contradictory trends that spreading almost always applies across the stem boundary in the remote tense (*yáá-góra* ‘he bought’) and not in the indefinite future (*ari-góra* ‘he will buy’), verb tense-specific patterns of LS will be consigned to the appropriate sections on verb tone melodies in chapter X.

1.1.1. PHRASAL LIMITS ON LS

The introduction to this subsection presents examples like [áhééngéré máángú mórójú múnéne] from /maheengere maangu muruju munéne/ which show the extensive application of LS at the phrasal level, and there are no known significant syntactic limits on the rule (we consider a few additional examples later to increase the diversity of

syntactic structures). There are, however, systematic patterns where there is no spreading, involving particular word combinations. The issue of trisyllabic nouns with stem-initial H being opaque to phrasal spreading (e.g. *mrógoori mtáámbi* ‘tall Logoori’) is discussed in section Y. There are other exceptions.

One example is bare N+N constructions within an NP, such as *mweene kítábu* ‘owner of the book’ also discussed below in Z. Usually, an NP adjunct is separated from the head noun by a class-agreeing associative proclitic, for example *keséé¹ró chééng’oombe* ‘skin of a cow’ where *ch(a)-* agrees with the cl. 7 head noun *kesééro* ‘skin’. A systematic exception is *omwééne* ‘owner’ which combines with any other noun to express ‘owner of N’, and no associative prefix separates the two nouns – also note that outside this construction, the noun has stem-initial H. As we see below, in this construction H does not spread from the following noun into *mweene*.

<i>mweene moryaango</i>	‘owner of a door’
<i>mweene ri¹gónyá</i>	‘owner of a banana’
<i>mweene kítábu</i>	‘owner of a book’
<i>mween-eé¹náámbú</i>	‘owner of a chameleon’
<i>mween-eé¹ngókó</i>	‘owner of a chicken’
<i>mween-í¹ngáánó</i>	‘owner of wheat’
<i>mweene ng’oombe</i>	‘owner of a cow’
<i>mweene mbwá</i>	‘owner of a dog’
<i>veene m^ybano</i>	‘owners of knives’
<i>veene mísúmaari</i>	‘owners of nails’

The same linkerless N+N construction exists when the head noun is a relational term such as ‘mother, uncle’. The head nouns in these examples also lose their underlying tone (*ísé, baabá* ‘father’, *gúókó* ‘grandmother’, *nnya* ‘mother’), except when it is shifted to the plural prefix. There is no phrasal LS in this construction either, but the restriction is only on spreading into the head noun, not e.g. within the complement (such as between *nó-* and *marova*)

<i>ise mwíivi</i>	‘father of a thief’
<i>gúukú rodééji</i>	‘grandmother of Rodeji’
<i>mwíivóri rodééji</i>	‘parent of Rodeji’
<i>baaba ródééji</i>	‘Rodeji’s father’
<i>kooza máróvá nó¹ródééji</i>	‘uncle of Marova and Rodeji’
<i>váabaaba mwíiha</i>	‘fathers of the bride’

There is a tendency for there to be no spreading from the modifiers *-Vndí* ‘other’ and *-ené* ‘itself’, but this is a tendency, not a strict rule, and is just an instance of the above generalization about non-spread of final H to a long penult.

<i>magéémbe gaandí</i>	‘another hoe’
<i>mgéra gúundí</i>	‘another river’
<i>mkárají úundí</i>	‘another judge’
<i>míndú úundí</i>	‘another person’

mrógoori uundí	‘another Logoori’
mugóye guundó	‘another rope’
móri guundí	‘another root’
rogéembe ruundí	‘another razor’
séenge vaandí	‘other aunts’

See also the following examples of application of LS.

ombá ¹ nó góundí	‘another knife’
hádará ¹ já háandí	‘at another bridge’
avasóorée ¹ rí váandí	‘other boys’
omjóó ¹ mbó góundí	‘another earthworm’
índóvátí ¹ ró yíindí	‘another sole’
koséembé ¹ llá kúundí	‘other weeding’
kíbórobó ¹ ró kíindí	‘other butterfly’

Non-application of LS also occurs before the emphatic demonstrative ‘itself’.

aváána veené	‘children themselves’
kesógóto cheené	‘cob itself’
mányónyí geené	‘birds themselves’
mísáára jeené	‘trees themselves’
mkóóngo mweené	‘boss himself’
msóoréeri mweené	‘boy himself’
vóséra vweené	‘porridge itself’
zing’óómbe zyeené	‘cows themselves’

Examples of spreading here are relatively few from most speakers.³

omwáá ¹ ná mwééné	‘the specific child’
omóó ¹ ndó mwééné	‘the specific person’
varó ¹ góorí vééné	‘the specific Logooris’
vwúó ¹ má vwééné	‘the specific fork’

Speaker EM has provided a more consistent meaning / pronunciation distinction.

mkáádo gweené	‘the avocado itself’
mkáá ¹ dó gwééné	‘the avocado alone’
rí ¹ gómyá ryeené	‘banana itself’
rí ¹ gómyá ¹ ryééné	‘banana alone’

³ I provided these glosses which resulted in these forms. In the next set, speaker EM volunteered a phonological distinction and corresponding difference in translation. The same semantic distinction can also be expressed with the modifier *-eng'iné*. Speaker LI has provided a few tokens of *-ene* with that gloss though not with a clear difference in tone pattern. I surmise that *-ene* may more generally have two forms and meanings, but speakers find tonal minimal pairs confusing and therefore opt for a segmentally-clearer form for conveying the meaning.

ríjónyí ryeené	‘the specific bird’
ríjónyí ryéené	‘a bird alone’
másháámgó má geené	‘those very geckos’
másháámgó má géené	‘geckos alone’
kíbága cheené	‘the specific cat’
kíbá gá chéené	‘cat alone’
ínyóóndo yeené	‘specific hammer’
ínyóóndó yéené	‘hammer alone’

One other NP-internal context with a tendency for non-spreading involves concatenations of nouns and non-agreeing modifiers, typically borrowed from Swahili. There is usually no spreading here, save for one context where spreading is obligatory. When the modifier is preceded by a toneless noun, H is assigned to the first vowel of the modifier stem,⁴ and obligatorily spreads throughout the preceding noun.

zínɡ'óómbé sí ¹ ríini	‘20 cows’
váándó sí ¹ ríini	‘20 people’
ímbánó sí ¹ ríini	‘20 knives’
mágíná íshí ¹ ríini	‘20 stones’
avásóóréérí sí ¹ ríini	‘20 boys’
avágéni sí ¹ ríini	‘20 guests’
aváándó sá ¹ rásíini	‘30 people’
zínɡánó sárasíini	‘30 stories’
mígóyé sárasíini	‘30 ropes’
ímbánó sá ¹ rásíini	‘30 knives’
aváándó árobaaini	‘40 people’
zínɡánó árobaaini	‘40 stories’
vííndó á ¹ róbáini	‘40 things’
ímígóyé á ¹ róbáini	‘40 ropes’
ómgóyé ká ¹ míli	‘proper rope’
ríjónyí ká ¹ míli	‘proper bird’
eng'óómbé há ¹ láali	‘lawful cow’
ómbánó sá ¹ láama	‘safe knife’
ámágíná tá ¹ yáari	‘ready stones’

While spreading from the first vowel of the modifier in the case of this assigned H is obligatory, spreading within the modifier is optional. This is seen above in examples like *zínɡánó sárasíini*, and in cases where the noun has an underlying H. The overwhelmingly most common pattern is non-spread.

migádi siríini	‘20 loaves’
imitéende siríini	‘20 thorn plants’
zí ¹ ngórówe ishíríini	‘20 pigs’

⁴ There is speaker variation in whether ‘20’ has the initial vowel ɪ-, but that vowel is “ignored” for phrasal H assignment. The numeral ‘40’ is robustly vowel-initial and is not ignored for tone assignment.

izídákíka íshiríini	‘20 minutes’
avarógoori siríini	‘20 Logoori’
váána sarasíini	‘30 children’
víígizi sarasíini	‘30 teachers’
amató sarasíini	‘30 ears’
váána sarasíini	‘30 children’
avíísokuro aróbáini	‘40 grandchildren’
avakárají samaníini	‘80 judges’
amarásiri kamíli	‘proper animal blood’
omnákivara kamíli	‘proper non-Logoori’
amaságati tayáari	‘ready stalk’
irátíiri haláli	‘legal scale for weighing’
ikitábo sahíihi	‘correct book’

Spreading is found as well, and is always of the “as far to the left as possible” type.

váágoogá ¹ siríini	‘20 grandfathers’
avakíkojó ¹ siríini	‘20 Kikuyu’
zídará ¹ já siríini	‘20 bridges’
váro ¹ góorí siríini	‘20 Logoori’
amasáá ¹ ndógó ¹ sárásíini	‘30 suitcases’
avaró ¹ góorí áróbáini	‘40 Logoori’
avakáá ¹ ná áróbáini	‘40 girls’
mwíígizi ¹ kámíili	‘proper teacher’

Further issues regarding non-spread are taken up in subsections below that relate to the controlling construction properties, such as demonstrative tone sandhi.

2. Penult Fall

Another general tone rule of Logoori is the change of Fall to level H. There is a lexical and grammatical contrast between level H vs. Fall on long vowels, covered in various points in this work. Some simple examples are given here.

iridáanji	‘tank’
omosáaza	‘man’
varadéeka	‘they will cook’
ndaakósóora	‘I refused’
n-aaháándíiki	‘he will write’
omosáára	‘tree’
índóómba	‘drum’
aring’óóda	‘he will write’
ndikagéénda	‘I would walk’
vakichóóra	‘they are still drawing’

In nouns, the distinction is lexical, and is covered in X on noun tone. In verbs, it is grammatical, being a function of the particular tone melody of a given tense and is covered in the appropriate sections of W.

The general phonological factors governing Fall vs. H are (i) that Fall only occurs on a long vowel and (ii) it only appears contrastively on a penultimate vowel. As noted in Chapter X, prepausal vowels may be contrastively long (*akigávórányá* ‘he is still dividing’, *akigávórányaa* ‘he is still dividing and is expected to continue’). H on a final long prepausal vowel falls, but so does a H on a short vowel, which we attribute to a phonetic process – thus the falling nature of a prepausal long H-toned vowel is explicable by other processes. Generalization (ii) reflects a rule that changes expected Fall to level H when a long syllable precedes the penult of the phrase. This can easily be demonstrated by following a word with penultimate H with some other word.

iridáánji voza	‘just a tank’
omósááza mwaango	‘fast man’
varadééka voza	‘they will only cook’
ndaakósóóra marova	‘I refused Marova’
n-aaháándíiki vwaango	‘he will write quickly’
omósáára moritu	‘heavy tree’
índóómbaa jangu	‘light drum’
aring’óóda voza	‘he will only write’
ndikagéénda vwaango	‘I would walk quickly’
vakichóóra marova	‘they are still drawing Marova’

We can also create alternations within verbs, by suffixation of a syllable after a long falling vowel that would otherwise be in the penult.

kodéeka	‘to cook’
kodéékera	‘to cook for’
varákóoja	‘they will help’
varákóojana	‘they will help each other’
várikátáage	‘they will plant’
várikátáágrane	‘they will plant for each other’
na kohóórúoki	‘we will take a break’
na kohóórúókizi	‘we will cause to take a break’

Another context resulting in positional alternations between fall and level H in verbs is in the ‘repetitive’ form of verbs, where the final vowel suffix is lengthened to form the repetitive sub-variant. We see an alternation in the crastinal future where H is assigned to σ_2 which is realized as falling tone in the penult but only when the final vowel is short.

maa vavóhóolle	‘they will untie’
maa vavóhóollee	‘they will untie over and over’
maa vaháándíiki	‘they will write’
maa vaháándíiki	‘they will write over and over’

maa vaháánzóokɪ	‘they will shout’
maa vaháánzóókɪɪ	‘they will shout over and over’
maa vazáázáame	‘they will taste’
maa vazáázáamee	‘they will taste over and over’
maa voonóonye	‘they will mess up’
maa voonóonyee	‘they will mess up over and over’

The second context where fall becomes level H is in M1 tenses with CVVC H tones stems, again when the final vowel undergoes repetitive-lengthening.

koradéékaa	‘we will cook over and over’
korarííngaa	‘we will fold over and over’
nɪ vátaadéékaa	‘before they cook over and over’
nɪ vátaarííngaa	‘before they fold over and over’
orikadéékee	‘you will cook over and over’
orikarííngɪɪ	‘you will fold over and over’
váá ¹ kadéékaa	‘they have now cooked over and over’
váá ¹ karííngaa	‘they have now folded over and over’
váridéékee	‘they will cook over and over’
várirííngɪɪ	‘they will fold over and over’
yaakodéékaa	‘he cooked over and over’
yaakórííngaa	‘he folded over and over’

The change of F to H in pre-penult position is extremely common, but may be optional in a few contexts. Virtually all such examples involve phrasal combinations where the H on the first part of a long vowel comes from one word and the second L-toned vowel is from another word. We often find this in phrasal N+adjective constructions where the noun has final H and the adjective begins with a L-toned vowel.

é ¹ ngók-éendojɪ	‘witch chicken’
énjén-íɲangɔ	‘quick tapeworm’
ɪmbw-éengeni	‘strange dog’
mdúgút-éenditu	‘heavy letter’
ɪsw-éendoto	‘infant termite’
endérem-íimbíɪ	‘raw vegetable type’
ɪzɪ ¹ ngók-áarɔbaɪɪ	‘40 chickens’
ɔmndog-áatá ¹ ári dó	‘dangerous full car’
é ¹ ngók-ínjɪma	‘whole chicken’
mdúgút-íɲangɔ	‘quick letter’
ɪbárw-índáámbrɪ	‘long letter’

This also arises in pre-head + noun constructions with the same $\acute{V}\#V$ structure.

kór-éeng'oombe	‘like a cow’
n-éeng'oombe	‘along with a cow’
vɔɲáási vw-éeng'oombe	‘grass for cow’

n-íɲama ‘with meat’

In a number of tenses following the M1 tone pattern, there is a variant where H is assigned at the left edge of the verb, which often but not universally has a falling tone if the H lands on a long vowel. These forms most commonly have completive marking (H on the SP syllable), or are headless relatives without a surface vowel for the augment, or reduce or elide the complementizer /ni/ in subordinate clauses.

váakamooɲa	‘they gossiped’
váakaraandiza	‘they spread’
yáakeeya ~	‘he just swept’
yáakeeya	
váakavógora	‘they have just received’
ndáakakírya	‘I ate it’
ndáagwii	‘I have fallen’
yáarakuuri	‘he has released’
ndáakáaraanji	‘I have finished the frying’
wáakogwa	‘the one who has fallen’
vam’kamat-aváánd-íváakunágora	‘they caught him, the people having run’
kurav-ikwáakúsha	‘if we had ground it’
variíran-iváakokígura	‘they will return having purchased it’
kurágón-ikwáakuchíiranya	‘we will sleep having returned it’

It also arises with Verb + N and N + Verb constructions.

mb-éeng’oombe	‘give me a cow’
naahíim-ínguruvɪ	‘he will hunt the pig’
apóó ¹ rí-kw-íɲama	‘he found meat on there’
naapóór-íinzira	‘he will find the path’
umóónd-áamááróóndé	‘the man who will follow’
vwaah-áagorizi	‘who has sold’
vwaah-áasyéévi	‘who has danced’
mudávády-áarimi	‘Mdavadi has now plowed’

The change of Fall to level H in pre-penultimate position is unquestionably a general rule with no systematic exceptions, but may be suspended on occasion for falling tones created by phrasal combinations of H+L.

3. Noun patterns

There is very little evidence for rules that assign tone to nouns. Patterns involving verb-to-noun derivation are discussed in chapter X, which leaves lexical nouns for possible analysis. No inflectional suffixes are added to nouns, and relatively little by way of prefixing can lead to tonal alternations. The main prefixes are the noun class prefix and

augment, seen in the citation form of nouns, and certain possible prefixes (else proclitics) coming before the noun, as illustrated below.⁵

o-mo-rógoori	‘Logoori person’
a-va-rógoori	‘Logoori people’
n-o-mo-rógoori	‘it’s a Logoori’
s-o-mo-rógoori	‘like a Logoori’
ha-mo-rógoori	‘by the Logoori’

From section X above we know, of course, that the tonal form of these words can also be *s-ómórógoori* or *s-ómórógoori* etc. due to Leftward Spread.

The main question of interest for lexical nouns is, what distributional patterns exist? Examples of the typical surface patterns (with non-application LS to the first H) and their approximate underlying forms (subtracting all effects of LS and downstep from H-concatenation) are as follows.

omo-doto	/omo-doto/	‘infant’
iki-bága	/iki-bága/	‘cat’
ich-áayo	/iki-áyo/	‘herd’
íkí ¹ -fóryá	/íkí-fóryá/	‘pan’
é ¹ -ngókó	/é-ngókó/	‘chicken’
daadá	/H daadá/	‘father’
eké ¹ -róóró	/eké-rooró/	‘chicken louse’
omo-sáára	/omo-sáára/	‘tree’
omó ¹ -yááyí	/omó-yááyí/	‘boy’
i-dwáasi	/i-dwáasi/	‘milk cow’
omw-áaraabu	/omw-áaraabu/	‘Arab’
om [?] -bógúsó	/omw-bógúsó/	‘Bukusu’
omo-diigiro	/omw-diigiro/	‘crutch’
oro-háá ngáywá	/oro-háá ngáywá/	‘cave’
iri-kááfori	/iri-kááfori/	‘padlock’
i-návódo	/i-navódo/	‘basket’
omo-rógoori	/omo-rógoori/	‘Logoori’
iri-syaamogoma	/iri-syaamogoma/	‘gecko’
ich-áá ¹ mégéré	/ich-áamegéré/	‘mushroom’
e-pé ¹ téréóri	/e-péteróóri/	‘petrol’

The first distributional fact about noun lexical tone to consider is that the tone of the noun word is determined by the stem, yet phonetically distinctive tones exist before the stem, on the noun class prefix or the augment. Noun class prefixes are generally toneless, but they may have H when added to certain stems. This is amply demonstrated in the lexicon and the chapters on noun class prefixes. A few further examples are seen below.

⁵ Note that morpheme boundaries are indicated here, when necessary, with – whereas ordinary hyphen - indicates deletion of one vowel in a phrasal VV sequence.

omoo–ndo	‘person’
avaa–ndo	‘people’
omoo–gera	‘river’
imi–gera	‘rivers’
iri–davaangiro	‘badly-made pot’
ama–davaangiro	‘badly-made pots’
iki–haraato	‘famine’
ivi–haraato	‘famines’
e–jeengero	‘beer pot’
izi–jeengero	‘beer pots’

Due to LS, when attached to a noun with a lexical H, that H will spread leftward to the class prefix.

omó–kóro	‘initiate’
avá–kári	‘women’
irí–dírísha	‘windows’
amá–gáraba	‘bean leaves’
eké–kóómoori	‘plant sp.’
iví–táraazi	‘shelves’
í–darája	‘bridge’
izín–déve	‘chairs’
oró–hágayu	‘hoof’

A number of nouns have H on the class prefix which is separated from the following H by downstep, and is not the result of LS – the puzzle is, where does the prefixal H come from in these examples?

íkí ¹ –fóryá	‘pan’
é ¹ n–gókó	‘chicken’
irí ¹ –bwóoni	‘potato’
amá ¹ –bwóoni	‘potatoes’
omó ¹ –yááyí	‘boy’
ovó ¹ –cháafu	‘dirtiness’
eké ¹ –séégéra	‘eye swelling’
ovó ¹ –nyéégéri	‘itch’

This is a lexical property of some noun roots, ones which have two H tones. We then conclude that some nouns simply have two H tones in their lexical representation. How are those two tone arranged in the underlying form, especially when the first H is realized on the noun class prefix or even the augment, which is not the morpheme that underlyingly governs presence of the H?

There are systematic restrictions on noun tone, where certain patterns are completely missing, even though they might arise by randomly assigning H to any vowel in the noun word.

*íkívanatu	prefix H with no other H
*ekesemémé ~ ekésémémé	H only on the final vowel
*ekeseveréta	H only on the penult of 4syllable or longer word
*íkibí' ní' má	three Hs

Tone of nouns in Logori falls into 5 relatively obvious patterns, regardless of stem shape. The last fact above is an important generalization about noun tone: stems have at most two Hs, thus the three primary tone patterns are the two-H patterns, the one-H patterns, and toneless nouns. The first generalization above tells us that H appears on the prefix only when there is a second H in the noun.

With this preliminary analysis, we start with the simplest class, the toneless class. These are nouns with no H, and nothing more needs to be said about them. Examples are:

isu	'female chicken'
umoko	'brother in law'
umogoye	'rope'
irigoke	'ash'
amarago	'law'
irijoungũ	'rat'
umwooyo	'voice'
enderema	'basella albis'
ikiharaato	'famine'
ikivouzuuzi	'whirlwind'
ekeheregete	'measles'
ihirigoma	'puff adder'
ichaangaraangwe	'parched land'

Such nouns account for about 25% of the noun lexicon.

H nouns have a single stem-initial H, and make up 42% of the noun lexicon.

ebéde	'ring'
ovúchíma	'ugali'
umúsáaza	'man'
idááywa	'rooster'
ovúyúúsi	'corn silk'
ekékéreko	'potash sieve'
umorógoori	'Logoori'
ikááyoongo	'weed'
ebéénzeni	'wash basin'
ibáákoora	'cane'
omonákivara	'non-Logoori'
ináánguruka	'ugali pot'
omwíísukuru	'grandchild'

We consider other nouns with a single H not on the first stem syllable later on. The vast majority of H nouns have H on the first root syllable.

Within the set of single-H nouns, there is a split in CVVCV nouns between those with a level H, which makes up over 3/4ths of such nouns, and those with falling tone which make up the other quarter of that subset.

amagéénga	‘embers’
amáhúóro	‘desire to meet s.o’
ekebóoko	‘cattle guide’
evéembe	‘grass’
ibóonda	‘donkey’
idááywa	‘rooster’
ikibúúsi	‘cat’
ikídóundo	‘bamboo plant’
ihíiri	‘clan’
ámbéere	‘milk’
ekéroori	‘heifer’
éng’éende	‘jigger’
ikitóomi	‘mound’
imbáande	‘dove type’

This is a fundamental lexical difference which simply has to be learned for the particular noun. The majority rule is that one has H tone rather than falling tone, leaving the learner to learn a smaller set of cases with fall. It is also worth noting that there are trends within and across speakers to produce falling tones as level tones, indicating that the distinction is being eroded at the phonetic level. Although *ikiráato* usually has a falling tone, a few tokens have been collected with level H, *ikiráato*. Though most speaker produce *oródáambi* ‘wick’ with a fall, one produces this with level H.

Another significantly-populated single-H pattern has H on the second stem syllable, a class which makes up about 2% of the lexicon. Virtually all examples are trisyllabic loan stems with short vowels, with only two words having more than three moras in the stem

omféréji	‘water tap’
ínávódo	‘drum’
ísúgúdi	‘conga drum’
ídágíga	‘minute’
nasáaye, nasáye	‘God’
amabárábaande	‘loquat’

H-toned monosyllabic roots pose the complication that their H is usually realized by splitting the H into H¹H. This splitting only takes place prepausally, making it easy to recover the underlying position of the lexical H. Splitting of final H is optional and of roughly equal frequency as non-splitting.

ímbwá ~ í ¹ mbwá	‘dog’
imbwá ndara	‘1 dog’
umó ¹ twí ~ umó ¹ twí	‘head’
umotwí vuza	‘only a head’
imító ~ imí ¹ tó	‘crotalaria’
imitó myaangu	‘light crotalaria’
iriísó ~ irí ¹ só	‘hair’
iriisó llara	‘one hair’
ikívwí ~ iki ¹ vwí	‘fox’
ikivwí chaangu	‘quick fox’

There is a further trend with CV́ nouns, that some have an option to shift final H entirely to the penultimate syllable.

amáté ~ amá ¹ té ~ amáte	‘saliva’
ovótá ~ ovó ¹ tá ~ ovóta	‘bow’
ovósyí ~ ovó ¹ syí ~ ovósyi	‘flour’
orósó ~ oró ¹ só ~ orósu	‘scent’
orósi ~ oró ¹ si ~ orósi	‘elephant grass’
amáchi ~ amá ¹ chi ~ amáchi	‘heels’

Overall, shift is the least-frequently exercised of these options. There is a strong though not absolute tendency that shifting occurs only in nouns that have no singular~plural distinction (*amáchi* being the one exception that has a singular, *iríichi*).

The phrasal situation with the noun ‘bow’ is particularly diverse. When followed by a modifier, we find either *vótá...* or *vóta...*, where individual speakers tend to have a consistent phrasal analysis, even when they produce all three citation forms.⁶

ovó ¹ tá vótáámbi	‘long bow’	RL (low N)
vó ¹ tá vótáámbi	‘long bow’	BK (low N)
vótá vorito	‘heavy bow’	EK (low N)
vó ¹ tá vótáámbi	‘long bow’	FA (exclusive pattern)
vóta vorito	‘heavy bow’	FA
ovótá vorara	‘one bow’	PM (rare)
ovó ¹ tá vótáámbi	‘long bow’	PM (usual)
ovótá vótáámbi	‘long bow’	EM (rare)
ovóta volla	‘one bow’	EM (usual)
vótá vorahi	‘a good bow’	LI (once)
vóta vokoru	‘old bow’	LI (usual)

One final set of nouns is superficially single-H with final H but no tone splitting, e.g. *guugá* ‘grandfather’, but underlyingly such nouns have two H’s.

⁶ Here, ‘low N’ means that there are only 2 or 3 tokens of this noun in phrase-medial position for the speaker.

We turn now to the two-H nouns, which are the remaining patterns. The first and largest subset of double-H nouns makes up 14% of the noun lexicon. These nouns always have H on the last syllable, and H towards the left edge of the stem. That first H is on the first stem syllable when the stem has 3 or more syllables.

ekémé ¹ nénwá	‘cartilage’
izimbá ¹ róká	‘cooked bananas’
má ¹ máará	‘tick’
oroséé ¹ ng ¹ ééngé	‘barbed wire’
iríjí ¹ kóró	‘crow’
ikidúú ¹ kúúrá	‘chicken flea’
amasí ¹ ríngókó	‘chicken droppings’
ekédó ¹ vóngóryó	‘pool of water’
ekékóó ¹ mámóólí	‘ringworm’
ikisíí ¹ mbííkírá	‘whydah’

The first H is on the pre-stem vowel when the stem is disyllabic.

é ¹ ngókó	‘chicken’
í ¹ ndámá	‘tobacco plant’
ikí ¹ fóryá	‘pan’
omó ¹ zúné	‘sunbird’
oró ¹ fónó	‘tether’
oró ¹ dááng’á	‘cattleherding stick’
ikí ¹ fwóoyó	‘rabbit’
irí ¹ ng’ááng’á	‘hadada ibis’

There are no nouns that are clearly double-H nouns with a CV stem, but that would be a possible analysis of variable nouns such as *ovú¹tá ~ ovóta*.

The other subclass of double-H nouns, accounting for the last 4% of nouns, has H on the penult (level H in some nouns, falling tone in others), plus a H located towards the beginning of the stem. Here, the positioning of the first H depends on the prosodic shape of the stem. When the stem has 2 syllables, the first H is always on the vowel before the stem. If the stem has 4 syllables, H is always stem-initial.

irí ¹ bwóoni	‘potato’
ovó ¹ cháafu	‘dirtiness’
í ¹ njóogo	‘peanut’
omó ¹ yááyı	‘boy’
om ¹ stáári	‘line’
irí ¹ tóonda	‘fruit’
iriká ¹ rádáasi	‘paper’
ekeméreméende	‘candy’
imbá ¹ rábára	‘road’
ekéhé ¹ náhépe	‘contempt’
itá ¹ pyóréeta	‘typewriter’

íkíbí¹ráóóni ‘small clay bowl’

In the case of trisyllabic stems, location of the first H depends on the length of the penult. If the penult is short, H₁ is before the stem. If the penult is long, H₁ is stem-initial.

í ¹ ndógónyi	‘ant sp.’
ómó ¹ ndéréva	‘driver’
rí ¹ dágálla	‘grasshopper’
ovó ¹ nyéégéri	‘itch’
írí ¹ káanzíra	‘sp. greens’
eké ¹ séégéra	‘eye swelling’
iridá ¹ ráamu	‘drum’
iritó ¹ fáali	‘brick’
vótá ¹ jíiri	‘riches’
irichí ¹ llóóndo	‘bird sp.’
omfá ¹ ráánza	‘Frenchman’
icháá ¹ ndáángu	‘back door’

The generalization covering the complex dependencies of linkage of H₁ to a stem-initial toneless syllable is that the first H links to a stem-initial syllable only when the target is *not* immediately followed by a *short* H-toned syllable.

There are two other sets of double-H nouns to add to the collection. The first has a clear disposition: these are a few class 1a nouns which in the singular have just a final H. These nouns lack the usual augment-plus-class prefix structure in the singular. Although the singulars have only final H, their plurals have the prefix *va*, and have the expected realization of double-H nouns with final H, which is H₁ is on the prefix or stem initial depending on syllable pattern. The basic complication here is that the expected first H cannot link to the first syllable in the singular, so we don’t have *gúú¹gá.

guugá	vá ¹ gúúgá ~ váá ¹ gúúgá	‘grandfather’
baabá	vá ¹ báábá ~ váá ¹ báábá	‘father’
koozá	vá ¹ kóózá ~ váá ¹ kóózá	‘uncle’
ofisá	vaó ¹ fisá	‘officer’
mboozó	váá ¹ mbóózó	‘brother’
mshaará ~ óm ¹ sháára	vá ¹ sháára ~ váá ¹ sháára	‘cousin’
ísé	vá ¹ ísé	‘father’
vaségwá		‘brother in law’ ⁷

The word ‘cousin’ does a singular prefix /m(v)/, and there *can* be an initial H, but only when the augment is present. There is a subtle usage difference between these forms, that *óm¹sháára* is more a general description of a family relationship, and *mshaará* is the

⁷ This term refers to the relation between men married to sisters, and has no formal plural though one can infer singular vs. plural from agreement patterns, e.g. *vaségwá /vávírí* ‘two brothers in law’, *vaségwá molla* ‘1 brother in law’. Since it refers to a mutual relation (like ‘twin’) it is at least historically a class 2 prefixed form.

name that you call your cousin. This distinction may not be made in dialects that strongly tend to delete the augment everywhere

The second sub-collection of double-H nouns is a small set of unclear cl. 9 CVCV nouns, which may have just a final H. This is an area where the data is highly variable both across speakers and within a speaker. Considering only data from EM, we find a handful of nouns with many tonal realizations attested in the data.

imbí ¹ tí, imbítí	‘hyena’
í ¹ mbúrú, mburu	‘monitor lizard’
í ¹ sóná, ɪsona, ísóna, zí ¹ sóná	‘mosquitoe(s)’
isómó, ísó ¹ mó	‘poison’
éséré, é ¹ séré, eséré	‘weevil’
ímbúku, í ¹ mbúkú, ímbú ¹ kú, mbuku, ímbúkú	‘mole’

Toneless tokens like *mburu*, *isona* might well be better transcribed as *mburu^o*, *isona^o* which is a phonetic variant of *mburú*, *isoná*, which then reduces the variation to optional splitting of final H and known variants involving LS. The anomaly, then, is that as single-H nouns we expect that H to be stem-initial, thus **esére*, **imbúku*. Since these nouns generally allow a double-H variant (*é¹séré*), the closest parallel that can be drawn is between *eséré* and *guugá*: these may therefore be double-H nouns where the first H is not (always) realized. However, there are clear invariant nouns like *é¹ngókó* ‘chicken’, *í¹ngógi* ‘baboon’, *í¹ndámá* ‘tobacco’, *í¹ngóvó* ‘hippo’, *í¹nzírýá* ‘mudfish’, *ízí¹mbógá* ‘amaranthus’ in class 9-10 which consistently have the prefix-and-final tone pattern.

Two additional extraneous-looking nouns can be added, which do not fit the general patterns. The first is *egóó¹fyá*⁸ ‘hat’, which infrequently has the alternative tonal form *é¹góófyá*. The latter is as expected, given nouns like *íkí¹fóóyó*. The form *egóó¹fyá* is what one would expect from /egoofia/ with the HH# pattern. This noun may therefore reflect a non-obvious optional prosodic analysis of the glide as being underlyingly a vowel (thus H maps to the stem initial syllable *goo* because the following syllable is not H toned). The second noun is ‘letter (epistle)’, which has the tonal forms *íbarwá*, *íbarwa*, *íba¹rwá*. This noun’s range of variation is similar to that of *imbítí*, though also includes single stem-initial H as an option. It is most likely that *íba¹rwá* results from pre-pausal H splitting starting with /ibarwá/, rather than coming from /ibarua/ with the HH# pattern (noting that like ‘hat’, the glide does derive from a vowel in Swahili *barua*). Though there are not many phrasal examples available involving this noun, no examples show preservation of H¹H structure phrase-medially, instead we find *íbarwá¹índáámbi* ‘long letter’ reflecting the final-H pattern or *zíba¹rwá tísa* ‘9 letters’ reflecting the initial-H pattern. In contrast, the noun ‘hat’ retains its downstep phrase-medially.

ízikóó ¹ fyá zira	‘those hats’
zíkoó ¹ fyá tísa	‘9 hats’
zígoofyá zídáá ¹ máánó	‘bad hats’
ígóó ¹ fyá ndara	‘1 hat’

⁸ Also *ekóó¹fyá*: borrowed from Swahili *kofia*.

A remaining issue regarding lexical distribution and representation of tone in nouns is the puzzle of falling versus level H. This is more of a theoretical puzzle in linguistics: the Logoori fact is simple – long penultimate syllables that have H may be distinctively falling vs. level H, and in nouns this determination is lexical. VCV noun and adjective stems pose an interesting theoretical complication, that they also lexically distinguish stems with penult level H versus ones with falling tone.

omwáana	‘child’
omwíiha	‘bride’
omwíivi	‘thief’
omwéeri	‘moon’
iryíta	‘name’
iryóova	‘sun’
iryáato	‘boat’
icháayo	‘herd’
orwíga	‘horn’
ovwíiko	‘relationship’
ovwíipa	‘fart’
ovwíino	‘ink’

omwáámi	‘chief, officer’
orwááchi	‘enclosure’
orwáása	‘tooth gap’
ovwóóngo	‘brain’
ovwóóma	‘fork’
omwóógo	‘cassava’
omwéembe	‘mango’
imyáándo	‘estate’
iryóóngo	‘pumpkin’
ichííya	‘tepidity’

The theoretical puzzle is, given underlying forms like /omo-ana/ and /omo-ami/, how is the surface fall vs. level H distinction encoded? One possibility is that there is a difference between stem-initial long vowels versus short vowels, which underlies the surface level / fall difference. All root-initial vowels in verbs are underlyingly short, as demonstrated in X – in verbs, we simply put no prefix before the stem, or the 1sg prefix /N/, and observe that in lieu of a /V+V/ combination, root-initial vowels in verbs are always short.

In nouns, because of the ubiquitous CV noun class prefix and compensatory lengthening, we do not generally have direct evidence that these vowels are underlyingly short. Nevertheless, there is some evidence in the form of nouns in cl. 11-10, where as we see below all noun root-initial vowels are short in cl. 10. In cl. 10 (the plural of cl. 11), there is no CV prefix that merges syllabically with the root-initial vowel.

orwíga	‘horn’	ízínzága	‘horns’
orwáana	‘childishness’	ízínzána	‘childishnesses’

orwáako	‘boundary’	izínzáko	‘boundaries’
orwímbo	‘song’	izínímbo	‘songs’
orwááchi	‘enclosure’	izínzáchi	‘enclosures’
orwáása	‘gap in teeth’	izínzása	‘gaps in teeth’

Another way to extend the argument that initial vowels in noun roots are short is to look at the class 1 and class 9 forms of the nouns, which is available thanks to the fact that the stem of any class 1 noun can be used as an adjective stem, and therefore can have a class 9-10 form. Below we see vowel initial cl. 1 nouns being used as adjectives, giving rise to a cl. 9 or 10 form with a consonant-final class prefix.

omodoto	‘infant’		
urugaga rodoto	‘soft fence’	zindéve zindoto	‘soft chair’
omó ¹ hááyá	‘Haya’		
imívánó imí ¹ hááyá	‘Haya knives’	eng’óómbé í ¹ mbááyá	‘Haya cow’
omwáana	‘child’		
misáará ¹ myáana	‘young trees’	ímbwá ¹ ínzána	‘young dog’
omwáámi	‘chief’		
ikígúúti cháámi	‘chief field’	myóómba inzámi	‘royal house’
omwíivi	‘thief’		
éng’óómbe ínzívi	‘thief cow’	ékémóóri chíivi	‘thief calf’

Such examples show that the stem-initial vowel, which ordinarily is preceded by a CV prefix, can be preceded by a consonant, and when it is, there is no vowel fusion and no lengthening of the short vowel. Vowel initial noun stems have underlying short vowels, but also have a level-H versus Fall contrast when lengthened.

Insofar as we cannot attribute the fall / level subclassification to an underlying difference in vowel length of the root-initial vowel, we are left to conclude that the distinction between Falling and level Hs is a fundamental phonological contrast in the language.

3.1. Spurious H

Another lexical property in the realm of noun tone contrasts is a lexical split in longer single-H stem, those with three or more syllables, where some receive a final H before a toneless modifier, and some do not. This is a highly variable complication both within and across speakers. The noun *mrógoori* is a canonical and well-documented example of a noun which acts as predicted given the general tone rules, mainly Leftward Spreading. We observe H only on the stem-initial syllable in the citation form, before modifiers which do not spread their L tones, or before words which have no H.

omrógoori	‘Logoori’
avarógoori mia móója	‘100 Logoori’
avarógoori vára	‘those Logooris’
avarógoori amsíini	‘50 Logoori’
akoonyi avarógoori vwaangu	‘he helped the Logooris quickly’

umoróogori voza ‘only a Logoori’

H in the following word, whether underlyingly present or derived by LS, can spread into the noun.

avaró ¹ góórí ámsíini	‘50 Logoori’
avaró ¹ góórí vózá váá ¹ kókoonyi	‘only the Logooris have helped us’
umoró ¹ góórí mtáámbrí	‘tall Logoori’
avaró ¹ góórí mńááne	‘8 Logoori’
mbooll-aavaró ¹ góórí góorízí úmgádi	‘I told the Logooris “sell the bread!”’
omró ¹ góórí n-úmtáámbrí	‘the Logoori is tall’
omró ¹ góórí n-úmwáángú dáave	‘the Logoori is not quick’

Other nouns which behave this way are seen below.

imíisheni	‘mission’	imíisheni voza	‘only a mission’
munákivara	‘nonLogoori’	munákivara molla	‘1 nonLogoori’
óófisi	‘office’	óófisi voza	‘only an office’
omwíísokuro	‘grandchild’	omwíísokuro molla	‘one grandchild’
rikááfori	‘padlock’	irikááfori llitu	‘heavy padlock’
omusáájeni	‘sergeant’	omsáájeni omwaangu	‘quick sergeant’

There are other nouns which are superficially similar in shape, the stem *-idako* being a canonical example of this second type. These nouns also have only a stem-initial H in their citation forms. H can spread from the following word just like *-rógoori*.

omwíídako	‘Idako’
vav-aavíídako	‘they are Idakhos’
kír-omwíídako	‘every Idakho’
mwíí ¹ dákó mtáámbrí	‘tall Idakho’
mwíí ¹ dákó móráhi	‘good Idakho’
avíí ¹ dákó n-áváráhi	‘the Idakhos are good’
avíí ¹ dákó vááríma	‘the Idakhos plowed’
avíí ¹ dákó váne	‘4 Idakhos’

The unexpected difference is that when the next word has no H tone, the noun gains a final H.

omwíí ¹ dákó molla	‘1 Idakho’
omwíí ¹ dákó voza	‘just Idakho’
avíí ¹ dákó vara	‘those Idakho’

Other nouns like this are given below.

ekeségese	‘roofpeak’
kókésé ¹ gésé kíndí	‘different peak’

ekesé ¹ gésé voza	‘roof peak only’
ekesé ¹ gésé killa	‘one roof peak’
ikidáhiru	‘dipper’
ikidá ¹ híró killa	‘1 dipper’
irigá ¹ rábá llara	‘1 bean leaf’
amagá ¹ rábá maangu	‘light bean leaves’
irigáraba	‘bean leaf’
amagá ¹ rábá máráhi	‘good bean leaf’

We cannot take the pre-L tone pattern to be the underlying tone, because there is also a set of words with stem-initial and word-final H tones in all positions. The stem *-vógosó* is a canonical example of that type.

umbó ¹ gósó	‘Bukusu’
umbó ¹ gósó mwaangu	‘quick Bukusu’
umbó ¹ gósó molla	‘1 Bukusu’
avávó ¹ gósó ¹ sábá	‘7 Bukusu’
avávó ¹ gósó vara	‘those Bukus’
avávó ¹ gósó ¹ váarima	‘the Bukus’ plowed (stative)’
avávó ¹ gósó ¹ vávírí	‘2 Bukusu’
avávógus-á ¹ víingi	‘many Bukus’

Other nouns of this kind are as follows.

roháá ¹ ngáywá	‘cave’
roháá ¹ ngáywá llara	‘1 cave’
roháá ¹ ngáywá ¹ róhéne	‘big cave’
irijí ¹ kóró	‘crow’
irijí ¹ kóró voza	‘crow only’
irijí ¹ kóró tayáari	‘ready crow’
omkí ¹ kóyó	‘Kikuyu’
mkí ¹ kóyó molla	‘1 Kikuyu’
omkí ¹ kóyó ¹ mtáambi	‘tall Kikuyu’
kidúú ¹ kúúra	‘chicken flea’
kidúú ¹ kúúra chaango	‘fast chicken flea’
kidúú ¹ kúúra kenéne	‘big chicken flea’

4. Noun phrasal tone

Combinations of nouns and modifiers or clitics within the noun’s phrase are subject to a number of special tonal alternations, apart from the general rule of Leftward Spread. A H is added in certain phrasal combinations, which either goes to the penultimate syllable of the noun, to the first vowel of the modifier, or is deleted. Which path is followed depends on the tonal properties of the head noun, and the nature of the following modifier. The best analysis focuses on (first) inserting a floating tone between N and a modifier, then linking it to the noun’s penult in a restricted set of contexts, followed by two rules of

deletion and a rule linking remaining Hs to the left edge of the modifier (though it is possible that there is one general rule of deletion and a more-restricted rule of left-edge linking – this is a matter that requires close consideration of the alternatives). We start with Penult H Assignment, since it is the clearest rule.

4.1. Penult H Assignment

The first rule is Penult H Assignment, where H is assigned to the penultimate of a toneless noun before certain modifiers. As suggested above, we assume that a floating H is generally present between the noun and the modifier, so the central question is which nouns allow that H to be mapped to the penult. The second question is which modifiers specifically cause penult mapping as opposed to a different disposition, in particular assignment to the beginning of word 2. This subsection involves the combination of adding H and assigning it to the penult.

We start the analysis with ‘N of N’ structures – a noun following and being used as a modifier of the head noun, the two being separated by the associative clitic AGR-a. As we see below, a H is assigned to the penultimate syllable of a toneless head noun before the possessive phrase.⁹

amato	‘leaves’
amátu g-í' mító	‘leaves of mito’
umoundu	‘person’
míndu wa logánó ki	‘what kind of person’
ingovo	‘cloth’
ingóvo ya mayáai	‘yellow cloth’
eng'oombe	‘cow’
eng'óó' mbé yá víhééndá	‘Vihenda’s cow’
kurira	‘crying’
kóríra kw-ízing'oombe	‘crying of cows’
umoryaango	‘door’
umlyáá'ngó gw-íinyóúmba	‘door of house’
umusigu	‘enemy’
mósígu wa rodéji	‘Rodeji’s neighbor’
msígu wa marova	‘Marova’s enemy’
muroondi	‘follower’
móróóndi wa mong'oma	‘follower of Mung’oma’
uvurimu	‘grass’
uvurímu vw-éeng'oombe	‘grass for cow’
avageni	‘guests’
avágéni v-á' váána	‘guests of children’
irigeembe	‘hoe’
ligéembe rya rodéji	‘Rodeji’s hoe’
um'bano	‘knife’
um'báno gwa marova	‘knife of Marova’

⁹ The tone on the associative varies, depending on whether the following noun has an augment or not.

um'ba ¹ nó gwá míhádyá	'knife of Mihadya'
kereenge	'leg'
keréé ¹ ngé ch-ééndeve	'chair leg'
ovosera	'porridge'
ovóséra v-ó ¹ mwííha	'porridge of the bride'
umogoye	'rope'
umogóye g-ó ¹ mwáána	'rope of child'
amagina	'stones'
hamágína g-í ¹ rígánísa	'by the stones of the church'
umodígíru	'crutch'
modíígíru gwa chóógo	'Chogo's crutch'
enderema	'vine spinach'
enderéma yá ¹ mórími	'vine spinach of the farmer'
egeengere	'bell'
égééngére y-ó ¹ vvééshi	'false bell'
rishaamogoma	'gecko'
risháámgóma rya garáha	'slow gecko'
iriguruguru	'turkey'
rigorugóru ry-ómgizi	'turkey of the homestead'

No H is inserted if the preceding noun has a lexical H (though H can spread from the possessor phrase).

umsáára	'tree'
umsáára gó ¹ mójóre	'tree of the Nyore'
rigódo	'skin'
rigódo lyéeng'oombe	'skin of a cow'
virááto	'shoe'
virááto vya rodéji	'Rodeji's shoe'
mááma	'mother'
mááma wó ¹ mwáána	'mother of child'
ikitáraazi	'drying shelf'
ikitáraazi cha Marova	'drying shelf of Marova'
umsáára	'tree'
umsáára gwamarova	'tree of Marova'
amabárábaande	'loquats'
amabárábaande g-ómwáána	'the loquats of the child'
magáraba	'bean leaves'
magáraba ga marova	'Marova's bean leaves'
kidáhiru	'dipper'
kidá ¹ híró chá ¹ mbéere	'milk dipper'
ddóóngoro	'necklace'
ddóó ¹ ngóro ryá ¹ káné	'fourth necklace'
mwíísukuru	'grandchild'
mwíísukoro wa marova	'Marova's grandchild'

There are many modifiers which trigger this tone-addition. Below is a collection of examples involving the stem *-ng'oombe* 'cow' involving such triggers, which includes (exhaustively) possessive pronouns, 'specific', 'another', 'which', 'aforementioned', 'how much' and all demonstratives.

éng'óó ¹ mbé yá	'my cow'
zing'óó ¹ m ¹ ba zyó ¹ óyó	'your cows'
éng'óó ¹ mbé yé ¹ éyé	'his cow'
éng'óó ¹ mbé yíí ¹ tó	'our cow'
éng'óó ¹ mbé yíínyú	'your (pl) cow'
zing'óó ¹ mbé zyáá ¹ vó	'their cows'
eng'óó ¹ mbé yéé ¹ né	'the specific cow'
eng'óó ¹ ombe yíí ¹ ndí	'another cow'
eng'óó ¹ ombe irihá	'which cow'
eng'óó ¹ mbé záná	'the aforementioned cow'
eng'óó ¹ ombe irí	'how much cow'
eng'óó ¹ omb-iiyi	'this cow'
eng'óó ¹ ombe yí ¹ no	'this cow'
zing'óó ¹ ombe yizi	'these cows'
zing'óó ¹ omb-eezi	'these cows'
eng'óó ¹ ombe eyo	'that cow'
eng'óó ¹ ombe yira	'that cow'
zing'óó ¹ ombe zira	'those cows'

Furthermore, H is assigned to the penult of a noun which is the subject of a following relative-clause verb

eng'óó ¹ omb-eró ¹ ndwí	'the cow which was followed'
izíng'óó ¹ ombe zyaayi	'the cows which grazed'
izíng'óó ¹ ombe ziirochi	'the cows which ran away'

Likewise, the noun receives H when it functions as the object of the relative clause, and is separated from the verb by the associative complementizer.

eng'óó ¹ ombe ya ndaakogoriza	'the cow which I have sold'
eng'óó ¹ ombe ya koratakakó ¹ rako ¹ o ¹ lli	'the cow which we will not release for you'
eng'óó ¹ ombe ya na kugó ¹ rízí	'the cow which we will sell'
eng'óó ¹ ombe ya váá ¹ vó ¹ ho ¹ lla	'the cow which they untied'

Compare these examples to the following examples with the same modifiers following the H noun *-rógoori* 'Logoori'.

varó ¹ góó ¹ rí vé ¹ évé	'his Logooris'
múró ¹ góó ¹ rí wéé ¹ tó	'our Logoori'
múró ¹ goori wó ¹ óvó	'your Logoori'
varó ¹ góó ¹ rí véé ¹ né	'the specific Logooris'

avarógoori vaandí	‘other Logoori’
varógoori ūliha ^o	‘which Logoori’
muró ¹ góorí ūrí	‘how much of a Logoori’
murógoori oyo	‘that Logoori’
murógoori ūra	‘that Logoori’
avarógoorí yava	‘these Logooris’
umurógoori w-aang’óóda	‘the Logoori who she will write’
avarógoori va asímugokiza	‘the Logooris who he will revive’
umurógoori yáá ¹ mbú ¹ káa	‘the Logoori who crosses’

Similar examples of the stem *-nákivara* ‘non-Logoori’ do not gain penultimate H before these triggering modifiers.

mná ¹ kívára ūliha	‘which non-Logoori’
vanáákivara veeto ^o	‘our non-Logooris’
avanákevava vára	‘those non-Logooris’
mónáákivara oyo	‘non-Logoori’
mónáákivara ūno	‘non-Logoori’
om ¹ nákivara yíigaa	‘the non-Logoori who learns’
umónákivara atarivadíiri	‘the non-Logoori who won’t hold them’

To summarize, the generalization covering this section is that some modifiers trigger insertion of a H which is assigned to the penult of a toneless noun.

4.2. Initial H Insertion

Certain numerals as well as non-agreeing adjectives borrowed from Swahili show evidence of H-insertion, with assignment to the initial syllable of the modifier. This alternation is seen in the numerals 2–5, which also select secondary class agreement prefixes. When the noun is underlyingly toneless, H appears on the first vowel of the numeral, and spreads by LS. Obviously, there is a shared element with the preceding section, that H appears when the preceding noun is toneless, and the difference is what happens to the H. In the case of these modifiers, it goes to the beginning of the modifier.

váándó vá ¹ víri	‘2 people’
váándó vá ¹ vágá	‘3 people’
váándó váne	‘4 people’
váándó vá ¹ tááno	‘5 people’
varóóndí vá ¹ víri	‘2 followers’
varóóndí vá ¹ vágá	‘3 followers’
varóóndí vá ¹ né	‘4 followers’
varóóndí vá ¹ tááno	‘5 followers’
mbáno jí ¹ víri	‘2 knives’
mbáno jí ¹ vágá	‘3 knives’
mbáno jí ¹ né	‘4 knives’
mbáno jí ¹ tááno	‘5 knives’

When the head noun has an underlying H, no H appears on the agreement prefix of the numeral, except that H from the numeral stem may spread leftward.

mavó ¹ yó gávírí	‘2 eggs’
mavó ¹ yó gávágá	‘3 eggs’
mavó ¹ yó gáné	‘4 eggs’
mavó ¹ yó gátáánó	‘5 eggs’
myóógo jivírí	‘2 cassavas’
myóó ¹ gó jíné	‘4 cassavas’
sée ¹ ngé vávágá	‘3 aunts’
vááscenge vavágá	‘3 aunts’
sééngé vatáánó	‘5 aunts’
vavógusu vané	‘4 Bukusu’
zídará ¹ já zívírí	‘2 bridges’
zídará ¹ já zívágá	‘3 bridges’
zídará ¹ já zíné	‘4 bridges’
zídará ¹ já zítáánó	‘5 bridges’

The numerals 6, 7, 9 also receive initial H after a toneless noun, but have no class agreement prefix.

varóóndí síí ¹ tá	‘6 followers’
mbánó síí ¹ tá	‘6 knives’
zimbéva síí ¹ tá	‘6 mice’
zing’óómbé síí ¹ tá	‘6 cows’
mígóyé síí ¹ tá	‘6 ropes’
mígérá síí ¹ tá	‘6 rivers’
myóóyó sá ¹ bá	‘7 voices’
váándó sá ¹ bá	‘7 people’
zing’óómbé sá ¹ bá	‘7 cows’
varóóndí tí ¹ sá	‘9 followers’
virééngé tí ¹ sá	‘9 legs’
ámányónyí tí ¹ sá	‘9 birds’

When the preceding noun has a H tone, no H is added to the numeral.

zímbuungú ¹ síítá	‘6 keys’
zing’éreng’aní ¹ síítá	‘6 stars’
imisáá ¹ rá síítá	‘6 trees’
zí ¹ góófyá ¹ síítá	‘6 hats’
má ¹ vúúdú sabá	‘7 ostriches’
zímbuungú sabá	‘7 keys’
avarógoori sabá	‘7 Logoori’
zibárwá ¹ tí ¹ sá	‘9 letters’
amée ¹ ngó tí ¹ sá	‘9 ripe bananas’

varó¹góórí tísá

‘9 Logooris’

The Swahili-borrowed decade numerals likewise are assigned initial H after a toneless head noun. The initial syllable of the following numeral is H after these L nouns.

avásóóréérí sí ¹ ríini	‘20 boys’
zing’óómbé í ¹ shíríini	‘20 cows’
aváríimí sí ¹ ríini	‘20 farmers’
avágéní sí ¹ ríini	‘20 guests’
ímíryáángó sá ¹ rásí ¹ íni	‘30 doors’
aváríimí sá ¹ rásíini	‘30 farmers’
váándó sá ¹ rásíini	‘30 people’
zing’óómbé á ¹ róbáini	‘40 cows’
avágéní árobaaini	‘40 guests’
váándó árobaaini	‘40 people’
mágíná á ¹ róbáini	‘40 stones’
mánónyí àmsíini	‘50 birds’
ímíryáángó á ¹ msíini	‘50 doors’
aváándó á ¹ msíini	‘50 people’
mígérá àmsíini	‘50 rivers’
ímígóyé á ¹ msíini	‘50 ropes’
avágéní sítaaini	‘60 guests’
vádótó sí ¹ tíini	‘60 infants’
mívánó sí ¹ tíini	‘60 knives’
mágíná sí ¹ tíini	‘60 stones’
mívánó sá ¹ bíini	‘70 knives’
mátó sá ¹ bíini	‘70 leaves’
vwóóvá sá ¹ bíini	‘70 mushrooms’
mágíná sá ¹ bwíini	‘70 stones’
zing’ééndó thámaníini	‘80 journeys’
mágíná sá ¹ máníini	‘80 stones’
vásóóréérí tísaini	‘90 boys’
avágéní tísaaaini	‘90 guests’
amagíná tísaaaini	‘90 stones’

No H is assigned to the initial vowel if the preceding noun contains a H, and the only H on the first syllable of the numeral is via LS from the numeral’s lexical H

izí ¹ ngókó ¹ sí ¹ ríini	‘20 chickens’
váá ¹ ná íshíríini	‘20 children’
avíisokoro sí ¹ ríini	‘20 grandchildren’
avarógoori sí ¹ ríini	‘20 Logoori’
avá ¹ yááyí sarasí ¹ íni	‘30 boys’
váána sarasíini	‘30 children’
aváágoogá sarasí ¹ íni	‘30 grandfathers’
zí ¹ ngókó arobaaini	‘40 chickens’

váána arobaíni	‘40 children’
amá ¹ gómyá ¹ ‘ámsíini	‘50 bananas’
myóógo amsíini	‘50 cassavas’
izi ¹ ngókó ¹ ‘ámsíini	‘50 chickens’
vikóómbe amsíini	‘50 cups’
váágoogá ¹ ‘ámsíini	‘50 grandfathers’
avanákivara amsíini	‘50 non-Logoori’
zi ¹ ngókó ¹ ‘sítíini	‘60 chickens’
madó ¹ fáárí ¹ ‘sítíini	‘60 bricks’
mikáá ¹ dó ¹ sítíini	‘60 avocados’
aváami sítíini	‘60 chiefs’
gwáá ¹ há ¹ sábiini	‘70 armpits’
vúúma sábiini	‘70 forks’
zináá ¹ ngórógá ¹ sábiini	‘70 ugali pots’
zing’é ¹ réng’ání ¹ thamaníini	‘80 stars’
zisózi ¹ dhamaníini	‘80 fish’
zinguróve ¹ themaníini	‘80 pigs’
mí ¹ dógá ¹ tisaaini	‘90 cars’
zibárási ¹ tisaaini	‘90 horses’
varógoori ¹ tisaaini	‘90 Logoori’

The numerals ‘100’ and ‘1000’ have two forms, the more-Logoori forms *imyá* and *érefu* and the Swahili forms *mia*, *elf*. The latter receive initial H after a toneless noun, and remain toneless after a noun with H.

vásóórée ¹ rí ¹ mí ¹ ‘á ¹ móója	‘100 boys’
ímbánó ¹ mí ¹ ‘á ¹ móója	‘100 knives’
avásóórée ¹ rí ¹ élf ¹ ‘móója	‘1000 boys’
aváándó ¹ élf ¹ ‘móója	‘1000 people’
avásóórée ¹ rí ¹ mí ¹ ‘á ¹ mbíiri	‘200 boys’
míjóómbó ¹ élf ¹ ‘mbíili	‘2000 earthworms’
áváándó ¹ mí ¹ ‘á ¹ táátu	‘300 people’
aváándó ¹ élf ¹ ‘táátu	‘3000 people’
uvwóóngo ¹ mia ¹ móója	‘100 brains’
avíisokuro ¹ mia ¹ móója	‘100 grandchildren’
avarógoori ¹ elf ¹ móója	‘1000 Logoori’
izi ¹ ngókó ¹ elf ¹ móója	‘1000 chickens’
aváána ¹ mia ¹ mbíiri	‘200 children’
avakáána ¹ elf ¹ mbíili	‘2000 girls’
avarógoori ¹ mia ¹ táátu	‘300 Logoori’
avaró ¹ góórí ¹ élf ¹ táátu	‘3000 Logoori’

One other set of modifiers participates in assignment of H after a toneless noun: non-agreeing borrowed adjectives like *tayári* ‘ready’ (ultimately from Arabic via Swahili).

omóóndó sá ¹ híhi	‘correct person’
ekerééngé sá ¹ bíiti	‘firm leg’
omorím-áá ¹ ráámó	‘illegal farm’
myóónd-á ¹ ráámó	‘illegal hammer’
eng’óómbé há ¹ láali	‘lawful cow’
aváándó há ¹ láali	‘lawful people’
iríjónyí ká ¹ míli	‘proper bird’
ómógéni ká ¹ míli	‘proper guest’
ómkóóngó tá ¹ yáari	‘ready boss’
omóóndó tá ¹ yáari	‘ready person’
ivikóómbé sahíihi	‘correct cups’
omwíí ¹ gízí ¹ sá ¹ bíiti	‘firm teacher’
amarwá ¹ áaráámó	‘illegal beer’
inzá ¹ r-áaráámó	‘illegal gravel’
imbú ¹ rí há ¹ láali	‘lawful goat’
omjóroro há ¹ láali	‘legal chain’
amarásiri kamíli	‘proper animal blood’
ekeré ¹ rémó kamíli	‘proper flat land’
irí ¹ gómýá ¹ tá ¹ yáari	‘ready banana’
íkí ¹ dúú ¹ kúrá ¹ tayáari	‘ready chicken flea’

4.3. Neutral modifiers

Not all post-nominal modifiers cause insertion of H tone. We can now enumerate the ones that do not have such an effect. The analytic resolution of this matter will reduce to saying that certain modifiers have a floating H in their structure, and others do not. In order to understand the distribution, we will take note of different modifier classes and agreement patterns, which is partially implicated in its division.

As show by various examples throughout this volume, nominally-agreeing adjectives do not trigger any insertion of H, either on the penult of the noun or the initial syllable of the modifier. Any Hs in the phrase arise from LS being applied to a modifier’s lexical H. Some additional examples follow.

há ¹ m ¹ g ¹ é ¹ r ¹ á ¹ há ¹ tá ¹ ám ¹ br	‘at a long distance of the river’
á ¹ v ¹ á ¹ r ¹ ím ¹ í ¹ v ¹ á ¹ v ¹ í	‘bad farmers’
zín ¹ g’óómbé zín ¹ dá ¹ á ¹ má ¹ án ¹ ó	‘bad cows’
í ¹ n ¹ é ¹ é ¹ ng ¹ é ¹ r ¹ ó ¹ é ¹ né ¹ ne	‘big beer-pot’
má ¹ g ¹ ó ¹ ké ¹ má ¹ m ¹ w ¹ aa ¹ m	‘black ashes’
má ¹ g ¹ é ¹ é ¹ mbé ¹ má ¹ né ¹ ne	‘big hoe’
mó ¹ ó ¹ ndó ¹ mó ¹ ní ¹ fu	‘clean person’
mó ¹ r ¹ ó ¹ ndí ¹ mó ¹ chá ¹ á ¹ fú	‘dirty follower’
rójó ¹ rwé ¹ ere	‘empty bowl’
zín ¹ jú ¹ zín ¹ zé ¹ re	‘empty bowls’
mató ¹ maangó ¹	‘light leaves’
mó ¹ r ¹ ím ¹ í ¹ mó ¹ kóm ¹ í ¹ ro	‘fat farmer’
kíkó ¹ goti ¹ kí ¹ ruru	‘fierce whirlwind’

mógérá móráhi ‘good river’

The primary nominal-style agreement can be identified from the shape of the agreements in cl. 3, 4, 6, 9, 10 – *mv-*, *mi-*, *ma-*, *N-*, *ziN-* as opposed to *gv-*, *ji-*, *ga-*, *ɪ-*, *zi-*.

In addition, the non-agreeing modifier *voza* ‘only’, locative adjuncts and various other non-agreeing expressions such as ‘like N’ do not trigger penultimate H

cheeyo voza	‘only a broom’
vosera vuza	‘just porridge’
enderema kumugera	‘enderema by the river’
rigoruguru kumugera	‘turkey by the river’
eng’oombe kokiguru	‘cow on hill’
zing’óómbé kóri mórémbo	‘cows like Murembo’

Included in this set are the numerals 8, 10 and the nativized numerals ‘100’, ‘1000’, which do not agree in noun class with the head noun.

ávándó ríkómi	‘10 people’
améé ngó ríkómi	‘10 ripe bananas’
vándó mónááni	‘8 people’
vadí ríjí mónááni	‘8 Tiriki’
zingógi mónááni	‘8 baboons’
zibirábiri mónááni	‘8 peppers’
másyáámógómó múnááne	‘8 geckos’
avaró góóri ímyá	‘100 Logoori’
ízing’óómbé ímyá	‘100 cows’
izí ngókó ímyá	‘100 cows’
imikó n-ímyá	‘100 hands’
avakáá n-érefu	‘1000 girls’
ávándó érefu	‘1000 people’
avaró góóri érefu	‘1000 Logooris’

A few modifiers with secondary agreement are tonally neutral – ‘all’, ‘both’, ‘itself’ and ‘alone’.

ávásígú vóosi	‘all enemies’
vwóová vwóosi	‘all mushrooms’
magéembé góosi	‘all hoes’
ligéembé lyóosi	‘the whole hoe’
vágóógó vóombi	‘both wives’
ómóúndó mwéene	‘the person on his own’
éng’óómbé yéene	‘the cow by itself’
mugóy-úgwéene	‘the rope itself’
rókááyiró rwéengíné	‘a sickle alone’
mórimí yéenyíné	‘farmer alone’
víbúrúbúru vyéenyíné	‘butterflies alone’

4.4. Demonstratives

The tone of demonstratives involves the intersection of initial H and penult H processes, as well as a tonal sensitivity to the presence of a syllable onset. The most transparent generalizations can be made regarding the distal demonstrative AGR-ra and proximal AGR-nu. A CVCV demonstrative is toneless when the preceding noun is toneless: that noun receives penult H.

ikihárááto kira	‘that famine’
ichííto kira	‘that market’
om’báno gora	‘this knife’
amaṇónyi gara	‘those birds’
imídíígíro jira	‘those crutch’
avang’óódi vara	‘those scribes’
ovuyíngū vora	‘that stupidity’
mukéne gora	‘that mashed beans and potatoes’
mbáángo gora	‘that ugali spoon’
amagína gara	‘those stones’
izindóóngóózi zira	‘those peaks’
keséero kira	‘that hide’
ovogóno vora	‘that bedroom’
váándo vara	‘those people’
vasóóréri vara	‘those boys’
ridóóngoro lla	‘that necklace’

If the noun has a non-final H, the demonstrative bears an initial H, which undergoes LS.

izináángoroka zira	‘those ugali pots’
amabarábaande gára	‘those loquats’
amavó ¹ yó gára	‘those eggs’
izinzó ¹ kí zira	‘those bees’
ikiráá ¹ tó kira	‘that shoe’
omogá ¹ dí góra	‘that bread’
abá ¹ chí zira	‘those abachis’
amáá ¹ zí gára	‘that water’
irí ¹ bwóó ¹ ní rira	‘that potato’
rvísú ¹ sú vira	‘those antilopes’
izidáá ¹ ywá zira	‘those roosters’
izimíísheni zira	‘those missions’
madíríí ¹ shá gára	‘those windows’
omsumáá ¹ rí góra	‘that nail’
vanákivara vára	‘those non-Logoori’
varógoori vára	‘those Logooris’
zinzó ¹ ká zira	‘those snakes’
mkó ¹ nó góra	‘that hand’

óó¹ fí sí zí ra ‘those offices’

If the noun has a final H, the demonstrative has no H.

Final H

íkívwí kira	‘that fox’
amarwá gara	‘that alcohol’
ovótá vora	‘that bow’
ízímú zira	‘those seeds’
gutó gora	‘that ear’
amá ¹ déllé gara	‘those young locusts’
amá ¹ gómyá gara	‘those bananas’
amá ¹ kéré gara	‘those frogs’
íkíforyá kira	‘that pan’
ízí ¹ ngókó zira	‘those chickens’
koozá vara	‘those uncles’
avaví ¹ sáándó vara	‘those orphans’
avávó ¹ gósó vara	‘those Bukusus’
avákíkoyó vara	‘those Kikuyus’
múdogá gora	‘that car’
amá ¹ témwá gara	‘those cooking bananas’

Nouns in the spurious-H subset have two behaviors, either they have a final H on the noun in which case the demonstrative is toneless, or they have no H and there is H at the beginning of the demonstrative. The most common pattern is to have only a noun-final H.

amadóóndorizí gara	‘those sparrows’
amahééngeré gara	‘that mahengere’
amakóvatí gara	‘those cobs’
ekekérekó kira	‘that potash sieve’
avíí ¹ sóká vara	‘those Isukhas’
matí ¹ gínyó gara	‘those heels’
avakárají vara	‘these judges’
amahééngeré gara	‘that mahengere’
ekekérekó kira	‘that potash sieve’
zimbágayó zira	‘those hooves’
avíísokuró vara	‘those grandchildren’
avíísokoro vára	‘those grandchildren’
avíí ¹ dákó vara	‘those Idakho’
avíídako vára	‘those Idakho’
amagá ¹ rábá gára	‘those bean leaves’
amagárabá gara	‘those bean leaves’
ízidáágika zira	‘those minutes’
avaró ¹ góórí vára	‘those Logooris’
váá ¹ ráábó vára	‘those Arabs’

The distal demonstratives in cl. 5 and 11 often reduce to surface [lla], from /rora/ and /rira/. This raises the question what becomes of the H tone on the deleted vowel, which would arise when the preceding noun has a non-final H. That H transfers to the final vowel of the preceding noun.

rití ¹ mó lla	‘that spear’
iríí ¹ nó lla	‘that tooth’
riséévée ¹ vé lla	‘that pumpkin leaf’
orová ¹ há lla	‘that wing’

Available examples all involve H on the penultimate syllable. Theoretically one predicts the existence of examples where the H is root-initial in a tri-syllabic or longer root, but such roots are potentially in the spurious-H subset. A relevant example is *rshágayó lla* ‘that hoof’ (*rshágayó*), where the final H on the noun is a ‘spurious’ H, as also shown by *zimbágayó zira* ‘those hooves’. There are, given the present data, no clear examples of such cl. 5 or 11 nouns followed by the distal demonstrative which are sufficiently long and which are clearly not in the spurious H subset.

The underlying mechanics of vowel-initial demonstratives are similar, though the surface result differs because of the fusion of V+V. When the noun is toneless, there is a penult H relative to the underlying form, and fusion of the non-final vowel and the demonstrative vowel yields a single long L toned vowel.

ikíínd-íki	‘this thing’
irííg-íryo	‘that termite’
ichíít-íki	‘this market’
avásíg-aavo	‘those enemies’
orwáánd-írwwo	‘that rock’
omwóóy-íigó	‘this voice’
orogúúch-írwwo	‘that dust’
vosér-írvwo	‘this porridge’
om’bán-íigó	‘this knife’
amajóny-aaga	‘these birds’
avang’óód-iava	‘these scribes’
ovoyííng-írvó	‘that stupidity’
ombír-íigó	‘this body’
izing’ííng-ízi	‘these moments’
ikiháaráát-íki	‘this famine’
izináámbév-ízi	‘these stew pots’
imídíígír-íji	‘these crutches’

If the noun has a final H, the fused syllable has a falling tone: *ikrvwí iki* → [ikrvwíki].

ikívw-íki	‘this fox’
ámárv-áaga	‘this alcohol’
ovó ¹ t-íívo	‘this bow’
izímw-ízi	‘these seeds’

urós-íro	‘this scent’
íkívw-íki	‘this fox’
iríf-íri	‘this thorn’
izímbw-ízi	‘these dogs’
ogótw-ígwo	‘that ear’
íkívw-ícho	‘that fox’
iriis-íryo	‘that hair’
baab-áava	‘these fathers’
amat-áago	‘this saliva’
íkíforý-íki	‘this pan’
irígó ¹ my-íri	‘this banana’
irígam-íri	‘this roof eaves’
izí ¹ náámbw-ízi	‘these chameleons’
avávó ¹ gós-áava	‘these Bukusus’
aváíkoy-áavo	‘those Kikuyus’
íkijá ¹ máñ-íki	‘this squirrel’
chó ¹ kóry-íki	‘this food’
iddáandarw-íri	‘this tent canvas’
íkisí ¹ mbíkír-íki	‘this whydah’

In a noun with a non-final H, the merged syllable surfaces with a falling tone: *irivóyo íri* → *irivóyíri* → [irivó¹yíri].

irivó ¹ y-íri	‘this egg’
íkíráá ¹ t-íki	‘this shoe’
omogá ¹ d-ígwo	‘this bread’
orwí ¹ mb-íro	‘this song’
irígó ¹ t-íri	‘this elder’
íkítá ¹ b-wíki	‘this book’
íkísú ¹ s-wíki	‘this antelope’
ómórí ¹ m-ígwo	‘this farm’
íkírí ¹ ndw-íki	‘this grave’
ombá ¹ s-ígwo	‘this sunlight’
í ¹ láá ¹ nd-íri	‘this climbing plant’
izínzá ¹ g-ízi	‘these marijuanas’
omwáá ¹ ráb-óoyo	‘this Arab’
irigá ¹ zée ¹ t-yíri	‘this newspaper’
risáándóg-wíri	‘this suitcase’
izináángorok-ízi	‘these ugali pots’
amabarábaand-áaga	‘these loquats’

The pattern for VCV and CVCV demonstratives can be unified by considering the effect of vowel fusion and the general tonotactics of Logoori. In both demonstrative contexts, the demonstrative H goes to the penult if the noun is all-L, and there is no H on the demonstrative. What remains is either that the final vowel of the noun has H (the demonstrative H deletes) or not (H is assigned to the beginning of the demonstrative). We

thus predict ...C[́]V#CVCV and ...CV#C[́]VCV; ...C[́]V#VCV and ...CV#[́]VCV. In the latter two cases, syllable fusion gives ...C[́]VVCV and ...CV[́]VCV. As observed elsewhere, there are no rising tones in the language, and in analogous examples under the M1 verb melody, V+[́]V results in a falling tone, not a level H – see for example /ku-íta/ → [kwiíta] ‘to kill’.

The alternative pattern that might be expected is a level H, and indeed such an output does arise in some tokens. This only happens when the noun has a non-final H, and never with a final H.

msáá ¹ z-úóyó	‘this husband’
mkéé ¹ -róóyó	‘this woman’
orové ¹ g-ííró	‘this memorial’
orová ¹ h-ííró	‘this wing’
oróde ¹ r-úíró	‘this grain tray’
rchóó ¹ vw-ííki	‘this short rains’
irídúú ¹ nd-ííryo	‘that larynx’
oroháá ¹ dáá ¹ d-ííró	‘this delivery truck’
izikááyoong-íízi	‘these weeds’
amagárab-áága	‘these bean leaves’
amabárábaand-áága	‘these loquats’

Since the distribution of level H versus fall on the penult is rather construction specific, this suggests that after the general rule converting V[́]V to [́]V[́], a specific rule converts [́]V[́] to [́]V[́], a rule which is furthermore optional (though usually applied).

This account predicts, correctly, that the distal demonstratives for cl. 1, 9 behave like the vowel-initial demonstratives, since they are also vowel-initial in these classes.

L noun

ímw-íira	‘that seed’
isíínd-íira	‘that quail’
modót-óora	‘that infant’
móónd-óora	‘that person’

Final H noun

kooz-óora	‘that uncle’
mbooz-óora	‘that sibling of opposite sex’
imbw-íira	‘that dog’
omosyaar-óora	‘that cousin’

Non-final H noun

myíí ¹ ng-ííra	‘that pot’
msáá ¹ z-úóra	‘that husband’

The (less-used) proximal demonstrative AGR-nu follows the pattern of *kíra* except in cl. 1 and 9, where it follows the pattern of *óra*. There is a penultimate H on the noun and no H on the demonstrative when the noun is toneless

aváándo vano	‘these people’
urósi ronu	‘this napier grass’
iziíngo zinu	‘these leopards’
ikígu kinu	‘this wasp’
mugóye guno	‘this rope’
ovogóno vonu	‘this bedroom’
amagína gano	‘these stones’
omwóoyo guno	‘this voice’
urusúósóni ronu	‘this rooster’s comb’
omóúnd-úono	‘this person’
eng’óómb-íinu	‘this cow’

If the noun has final H, there is no H on the demonstrative.

urokú rono	‘this wood’
amarwá gano	‘this alcohol’
ekegó kinu	‘this animal enclosure’
amaté gano	‘this saliva’
ugótó gunu	‘this ear’
ovoró vonu	‘this millet’
ovúshí vono	‘this flour’
amá ¹ déllé gano	‘these young locusts’
iridóóndorizí rinu	‘this sparrow’
amávaró gano	‘these ants’
icháashá kinu	‘this splinter’
izí ¹ mbúró zinu	‘these monitor lizards’

Otherwise when there is a non-final H, the demonstrative has H

omoyé ¹ ké gónu	‘this sand’
omorí ¹ tó gónu	‘this forest’
ikibá ¹ gá kínu	‘this cat’
ekekóó ¹ mbé kínu	‘this cup’
amíí ¹ tá gáno	‘these names’
omsáá ¹ rá gónu	‘this tree’
avákáá ¹ ná váno	‘these girls’
rvidé ¹ té vínu	‘these fingers’
eketóóombeero kínu	‘this sprout’
izimíísheni zínu	‘these missions’
avarógoori váno	‘these Logooris’
izikáá ¹ yóóngo zínu	‘these weeds’
izigééngere zínu	‘these bells’
omwáá ¹ n-úono	‘this child’
omkáá ¹ n-úono	‘this girl’

The V-AGR pattern demonstratives have an additional option that *y* is inserted at the left edge of the demonstrative. When this option is exercised, there is no vowel fusion and the tone pattern of these demonstratives falls in line with the AGR-ra distal demonstratives.

L nouns

izííngó yizi	‘these leopards’
ovóshí yivú	‘this flour’
avááandu yava	‘these people’
irígína yiri	‘this stone’
ovogóno yivú	‘this bedroom’
amagína yaga	‘these stones’
ombíri yigú	‘this body’
amagéémbe yága	‘these hoe’
majónyi yaga	‘these birds’
zing’óómbe yizi	‘these cows’
voséra yivú	‘this porridge’
rugáno yirú	‘this story’
izináámbéva yizi	‘these pots’
orosósúsóni yirú	‘this rooster’s comb’
izigééngére yizi	‘these bells’
zijeéngéro yizi	‘these beer pots’
vasóóréri yava	‘these boys’
ivyáágáraángwe yivi	‘these parched lands’

Final-H nouns¹⁰

amáté yaga	‘this saliva’
ekegó yiki	‘this animal enclosure’
gutó yigú	‘this ear’
iríifá yiri	‘this thorn’
iríísó yiri	‘this hair’
orohó yirú	‘this maize husk’
amá ¹ gámá yaga	‘these roof eaves’
amadellé yaga	‘these young locusts’
amagárabá yaga	‘these bean leaves’
amávaró yaga	‘these ants’
irígomyá yiri	‘this banana’
izí ¹ náámbó yizi	‘these chameleons’
izí ¹ nzúúné yizi	‘these clotting plants’
izikóofyá yizi	‘these hats’
amahééngeré yaga	‘this mahengere’
amaságatí yaga	‘these stalks’
ekékerekó yiki	‘this potash sieve’
ikisiímbikirá yiki	‘this whydah’
iridóondórizi yiri	‘this Grey-Headed Sparrow’

¹⁰ This includes initial-H nouns falling into the spurious H subset.

Non-final H nouns

imísáára yíji	‘these tree’
kekóó ¹ mbé yíki	‘this cup’
má ¹ bwóó ¹ ní yága	‘these potatoes’
m̀béé ¹ ré yága	‘this milk’
misáá ¹ rá yíji	‘these trees’
amagáraba yága	‘these bean leaves’
avarógoori yáva	‘these Logooris ’
irigáraba yíri	‘this bean leaf’
izidáágika yízi	‘these minutes’
izikááyoongo yízi	‘these weeds’
madírií ¹ shá yága	‘these windows’
óófisi yízi	‘these offices’
ridírií ¹ shá yíri	‘this window’
oroháá ¹ dáá ¹ dá yíro	‘this delivery truck’
vibí ¹ ríí ¹ tí yívi	‘these matches’
zí ¹ ngóró ¹ ví yízi	‘these pigs’
amabárabaande yága	‘these loquats’
kekóómbamoori yíki	‘this ringworm’

4.5. Possessive pronouns

Possessive pronouns are in the class of words that assign H to the preceding penult (though there is a minor tendency in longer stems for the H to materialize on the final syllable). There is a tonal split in the form of the possessive pronoun between forms having just a final H, versus those with an initial and final H. The singular possessive pronouns have the two-H pattern, and the plural pronouns have the single final-H pattern. This is illustrated below with L nouns.

omóó ¹ ndú wíító	‘1p person’
móóndo wíínyú	‘2p person’
izíng’óó ¹ mbé zyíító	‘1p cows’
éng’óó ¹ mbé yíínyú	‘2p cow’
íng’óó ¹ mbé zyáávó	‘3p cow’
modíígí ¹ ró gwíítú	‘1p crutch’
midíígí ¹ ró jíínyú	‘2p crutches’
midíígí ¹ ró jáávó	‘3p crutches’
vasí ¹ gú wíítú	‘1p enemies’
valí ¹ mí wíítú	‘1p farmers’
molí ¹ mí wíínú	‘2p farmer’
rogéé ¹ ndó rwíítú	‘1p journey’
rogéé ¹ ndó rwíínyú	‘2p journey’
rogéé ¹ ndó rwáávó	‘3p journey’
m̀bá ¹ nó gwíínyó	‘2pl knife’
m̀bá ¹ nó gwáávó	‘3p knife’

viréé ¹ ngé vyíítú	‘1p leg’
koséémbé ¹ rá kwíítú	‘1p weeding’
koséémbé ¹ llá kwáávó	‘3p weeding’
koséémbé ¹ llá kwíínyó	‘2p weeding’
rókááyí ¹ ró rwíítú	‘1p sickle’
rókááyí ¹ ró rwíínyú	‘2p sickle’
rókááyí ¹ ró rwáávó	‘3p sickle’
irígórógó ¹ ró ryíító	‘1p turkey’
amágórógó ¹ ró gíínyú	‘1p turkey’

aváá ¹ ndó vá ¹ ángé	‘1s people’
éng’óó ¹ mbé yóó ¹ yó	‘2s cow’
éng’óó ¹ mbé yéé ¹ yé	‘3s cow’
akáng’óó ¹ mbé ké ¹ éké	‘3s cow-dim’
modíígí ¹ ró gwó ¹ ógwó	‘2s crutch’
modíígí ¹ ró gwí ¹ ígwé	‘3s crutch’
modíígí ¹ ró gwá ¹ ángé	‘1s crutch’
vasí ¹ gú váángé	‘1s enemies’
mólími wé ¹ évé	‘3s farmer’
valími vóovó	‘2s farmers’
rogéé ¹ ndó rwá ¹ ángé	‘1s journey’
rogéé ¹ ndó róú ¹ rwó	‘2s journey’
rogéé ¹ ndó rwíí ¹ rwé	‘3s journey’
m̀bá ¹ nó gwá ¹ ángé	‘1s knife’
m̀bá ¹ nó gwíí ¹ gwé	‘2s knife’
m̀bá ¹ nó jí ¹ íjé	‘3s knives’
kerééngé chíí ¹ ché	‘3s leg’
kokéréé ¹ ngé kóó ¹ kwó	‘on 2s leg’
koséémbé ¹ llá kwá ¹ ángé	‘1s weeding’
kóséémbé ¹ llá kwíí ¹ kwé	‘3s weeding’
zínéngéro zí ¹ ízyé	‘3s beer pots’
rókááyí ¹ ró róú ¹ rwó	‘2s sickle’
rókááyí ¹ ró rwíí ¹ rwé	‘3s sickle’
amágórógó ¹ ró ¹ gá ¹ ángé	‘1s turkeys’
amágórógó ¹ ró ¹ gó ¹ ógó	‘2s turkeys’
irígórógó ¹ ró ¹ ríí ¹ ryé	‘3s turkey’
risháámógómá ¹ ryá ¹ ángé	‘1s gecko’
risháámógómá ¹ ríí ¹ ryé	‘3s gecko’

The same distribution is found after a noun stem with a non-final H.

vítá ¹ bú vyíító	‘1p books’
vítá ¹ bú vyíínyú	‘2pl books’
chíí ¹ fũ víítú	‘1p chiefs’
váá ¹ ná víínyú	‘2pl children’
mwáá ¹ ná wíítú	‘1p child’

mwáá ¹ ná wáávo	'3p child'
rití ¹ mú ryáávo	'3p spear'
mávo ¹ dó yíítú	'1p basket'
mávo ¹ dó yíinyú	'2p basket'
zinávo ¹ dó zyáávo	'3p baskets'
vidé ¹ té vyíítú	'1p fingers'
kédé ¹ té chíinyú	'2p finger'
kédé ¹ té cháávo	'3p finger'
kovó ¹ dóng'ána ¹ kwíító	'1p act of going around'
irí ¹ péé ¹ rá ryíító	'1p guava'
irí ¹ péé ¹ rá ryíinyú	'2p guava'
konyóó ¹ mbá yáávo	'on 3p house'
vwóó ¹ vá vwíinyú	'2p mushroom'
vwóó ¹ vá vwíítú	'1p mushroom'
mtíinde wíinyú	'2p neighbor'
vatéé ¹ ndé wáávo	'3p neighbors'
vatéé ¹ ndé víítú	'1p neighbor'
vítá ¹ bú ví'ívyé	'3s books'
kokítá ¹ bú kwá ¹ ángé	'on 1s book'
chífú ¹ wá ¹ ángé	'1s chief'
mwáá ¹ ná wá ¹ ángé	'1s child'
váá ¹ ná vó ¹ óvo	'2p children'
váá ¹ ná vé ¹ évé	'3s children'
rití ¹ mú ryíítú	'1p spear'
matí ¹ mú gá ¹ ángé	'1s spears'
mátí ¹ mú géenyú	'2p spears'
ritímú ¹ ríí ¹ ryó	'2s spear'
ttí ¹ mú ríí ¹ ryé	'3s spear'
mávo ¹ dó yá ¹ ángé	'1s basket'
zinávo ¹ dó zíí ¹ zyó	'2s baskets'
zinávo ¹ dó zíí ¹ zyé	'3s baskets'
kédé ¹ té chíí ¹ chó	'2s finger'
kédé ¹ té chíí ¹ ché	'3s finger'
kovó ¹ dóng'ána ¹ kwá ¹ ángé	'1s act of going around'
míím ¹ bá mwá ¹ ángé	'in 1s house'
vwóó ¹ vá vóó ¹ vwó	'2s mushroom'
vwóó ¹ vá vwíí ¹ vwé	'3s mushroom'
mtéé ¹ ndé wá ¹ ángé	'1s neighbor'
vatéénde vó ¹ óvo	'2s neighbors'
mtéénde wé ¹ évé	'3s neighbor'

Likewise, after a noun with final H, plural possessive pronouns have a single H and singular pronouns have two Hs.

marwá ¹ gíinyú	'2p alcohol'
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amarwá 'gíító	'1p alcohol'
m'dógá 'gwíító	'1p car'
ugótó 'gwíító	'1p ear'
ugótó 'gwíínyú	'2p ear'
ugótó 'gwáávó	'3p ear'
baabá 'víítú	'1pl fathers'
váabaabá 'víínyú	'2pl fathers'
baabá 'wáávó	'3p father'
órózé 'rwíítú	'1p grain drying area'
órózé 'rwíínyú	'2p grain drying area'
órózé 'rwáávó	'3p grain drying area'
avááguogá 'víínyú	'2p grandfathers'
kómótwí 'kwíínyú	'on 2p head'
mítwí 'jíítú	'1p heads'
m'twí 'gwáávó	'their head'
imító 'jíító	'1p mito'
imító 'jíínyú	'2p mito'
ofisá 'víítú	'1p officers'
rí'móónó 'ryíítú	'1p red ant sp.'
zínámaará 'zyáávó	'3p ticks'
koozá 'wíítú	'1p uncle'
vákoozá 'víítú	'1p uncles'
marwá 'gé'égé	'3s alcohol'
ámárwá 'gó'ógó	'2s alcohol'
hám'dógá 'hóó'hó	'at 2s car'
mó'dógá 'gwí'ígwé	'3s car'
vááyaará 'vé'évé	'3s cousins'
vááyaará 'vá'ángé	'1s cousins'
vááyaará 'vó'óvó	'2s cousins'
ugótó 'gwá'ángé	'1s ear'
ugótó 'gúú'gwó	'2s ear'
ugótó 'gwí'ígwé	'3s ear'
baabá 'wáá'ngé	'1s father'
váabaabá 'vé'évé	'3s fathers'
váabaabá 'vó'óvó	'2s fathers'
órózé 'rwáá'ngé	'1s grain drying area'
órózé 'rúú'rwó	'2s grain drying area'
órózé 'rwí'rwé	'3s grain drying area'
(váá)guogá 'vó'óvó	'2s grandfathers'
mótwí 'gwí'ígwé	'3s head'
ofisá 'vá'ángé	'1s officers'
mámaará 'yéé'yé	'3s tick'
ɪná máára 'yóó'yó	'2s tick'
koozá 'wáá'ngé	'1s uncle'
tokóó 'zá tóú'twó	'2s uncles-dim'

koozá 'wé' évé

'3s uncle'

There are various ways to lexically represent that distinction, for instance /óovó/ vs. /aavó/.

Outside of the NP context, the plural possessors have a single level penultimate H and the singular possessors have one H on each of the two syllables.

nɪ chá'ángé	'it is mine'	chá'ángé	'mine'
nɪ chíí'chó	'it is yours'	chíí'chó	'yours'
nɪ chíí'che	'it is his'	chíí'chó	'his'
nɪ chíító	'it is ours'	chíító	'ours'
nɪ chíínyu	'it is 2p'	chíínyu	'2p'
nɪ cháávo	'it is theirs'	cháávo	'theirs'

There is also a contraction of possessive pronouns in cl. 1 form with the head noun whereby *w* is deleted and the vowel sequence reduces to a single syllable. The tonal profile of this variant is mostly as predicted given the singular vs. plural pronoun tone differences, with two exceptions. First, class 1a kinship terms of the form CVVCV (*mááma*, *baabá* etc.) shift penultimate H tone to the final syllable – other nouns with class prefixes do not do this. Second, nouns with final H have H¹H on the fused syllable, which is a result of general tonal rules. In the following examples we see examples without those complications, either initial H or no H.

umkóóngo	mkóó'ngíító	'1p boss'
	mkóó'ngáá'ngé	'1s boss'
	mkóó'ngíínyú	'2p boss'
chíífu	chíí'fíító	'1p chief'
	chíí'fáá'ngé	'1s chief'
	chíí'fíínyú	'2p chief'
	chíí'fóó'vó	'2s chief'
umsigu	msí'gíító	'1p enemy'
	msí'gá'ángé	'1s enemy'
	msí'gíínyú	'2p enemy'
	msí'gáávó	'3p enemy'
	msí'gé'évé	'3s enemy'
umgeni	mgé'níítú	'1p guest'
	mgé'níá'ngé	'1s guest'
	mgé'níínyú	'2p guest'
	mgé'níévé	'3s guest'
umséeve	mséé'vá'ángé	'1s Kikuyu'
	mséé'víínyú	'2p Kikuyu'
	mséé've'évé	'3s Kikuyu'
umtéénde	mtéé'ndíító	'1p neighbor'
	mtéé'ndíínyú	'1p neighbor'
	mtéé'ndáá'ngé	'1s neighbor'
	mtéé'ndó'óvó	'2s neighbor'

	mtéé ¹ ndáávo	‘3p neighbor’
omóóndo	omóó ¹ ndíinyú	‘2p person’
	omóó ¹ ndíító	‘1p person’
	mgóó ¹ gá ¹ ángé	‘1s wife’
omgóógo	mgóó ¹ gáávo	‘3p wife’
	mgóó ¹ gé ¹ évé	‘3s wife’

Examples of nouns with final H are as follows: this includes nouns with a single H in citation form which receive a ‘spurious H’.

mshaará	mshaará ¹ ángé	‘1s cousin’
	mshaaré ¹ étú	‘1s cousin’
	msyaaró ¹ óvo	‘2s cousin’
	msyaaré ¹ évé	‘3s cousin’
omkáraji	mká ¹ rájá ¹ ángé	‘1s judge’
	mká ¹ rájíó ¹ óvo	‘2s judge’
	mká ¹ rájíá ¹ ávo	‘3p judge’
ofisá	ofisá ¹ ángé	‘1s officer’
	ofisí ¹ inyú	‘2p officer’
	ofisá ¹ ávo	‘3p officer’
	ofisé ¹ évé	‘3s officer’
baabá	baabí ¹ ítú	‘1p father’
	baabá ¹ ángé	‘1s father’
	baabí ¹ inyú	‘2p father’
	baabó ¹ óvo	‘2s father’
	baabé ¹ évé	‘3s father’
guugá	guugí ¹ ító	‘1p grandfather’
	guugá ¹ ángé	‘1s grandfather’
	guugó ¹ óvo	‘2s grandfather’
	guugé ¹ évé	‘3s grandfather’
koozá	koozí ¹ ítú	‘1p uncle’
	koozá ¹ ángé	‘1s uncle’
	koozó ¹ óvo	‘2s uncle’
	koozé ¹ évé	‘3s uncle’

Given the inputs *koozá á¹ángé* and *koozá í¹ító*, syllable fusion gives a two-vowel syllable with Hs on the vowels and a downstep between the two Hs: the location of the downstep relative to the input vowels is lost when the syllable is rearranged. Finally, the following examples of penult-H kinship terms show a construction-specific shift of that tone to final position, leading to neutralization of the form with singular versus plural pronouns.

góóku	guokí ¹ ítú	‘1p grandmother’
	guoká ¹ ángé	‘1s grandmother’
	guokí ¹ inyú	‘2p grandmother’
	guokó ¹ óvo	‘2s grandmother’
	guoká ¹ ávo	‘3p grandmother’

	guoké ¹ évé	‘3s grandmother’
mááma	maamí ¹ ítú	‘1p mother’
	maamá ¹ ngé	‘1s mother’
	maamó ¹ ówó	‘2s mother’
	maamá ¹ ávó	‘3p mother’
	maamé ¹ évé	‘3s mother’
amwáávo	amwaavá ¹ ángé	‘1s same-sex sibling’
	amwaaví ¹ inyú	‘2p same-sex sibling’
	amwaavó ¹ ówó	‘2s same-sex sibling’
	amwaavá ¹ ávó	‘2s same-sex sibling’
	amwaavé ¹ évé	‘3s same-sex sibling’

4.6. Nominal tone erasure

There are certain constructions where the underlying tone of a noun is erased. One context involves the directional proclitic *má-* ‘in the direction of; towards’.

izi ¹ ngóróve	inázingorove	‘pigs-wards’
amavére	iná mavere	‘sorghum-ward’
koozá	iná kooza	‘uncle-wards’
omkáána	iná mkaana	‘girl-wards’
om ¹ bó ¹ gósó	iná mbugoso	‘the Bukusu-wards’
guugá	iná guuga	‘grandfather-wards’
imisómaari	iná misumaari	‘nails-wards’
irigóondi	iná rigoondi	‘sheep-wards’
iki ¹ fóóyó	iná kifooyo	‘rabbit-wards’
iri ¹ sháágári	iná rishaagari	‘lizard-wards’
é ¹ ngókó	iná ngoko	‘chicken-wards’
oroháá ¹ ngááywá	iná rohaangaaywa	‘cave-wards’
ekemé ¹ reméénde	iná kemeemeende	‘candy-wards’

When followed by a modifier that otherwise would have a tonal influence on the noun (penult H or LS), that influence is blocked: the lowered noun is opaque to other H tones.

mámbori isáá ¹ kóró	‘old goat-wards’
mámdama indáámbrí	‘tall tobacco plant-wards’
inámaowa má ¹ mwáámó	‘dark flowers-wards’
mánama ingá ¹ ráángé	‘fried meat-wards’
mároseng ¹ eeng-orwóógi	‘sharp barbed wire-wards’
mánguruve enéne	‘big pig-wards’
mázingoko ziindí	‘other chickens-wards’
mázinyoomba zivirí	‘2 houses-wards’
mávaandu vané	‘4 people-wards’
máng ¹ oombe yíra	‘that cow-wards’
mávifooyo víra	‘those rabbits-wards’
mávifooyo yívyo	‘those rabbits-wards’

mámaswa garihá	‘which body hairs-wards’
mázing’oombe zyá ¹ ángé	‘my cows-wards’
mázisiindó zíizyo	‘your quails-wards’

A second construction involves the modifier *kí* ‘what’. When the noun is immediately followed by *kí*, it may both lose all H tones as well as the augment. This is found repeatedly in data from EM and RK

vosera kí	‘what porridge?’
mwoogo kí	‘what cassava?’
kibaga kí	‘what cat?’
mgadi kí	‘what bread?’
mshaara kí	‘what cousin?’
mbugusó kí	‘what Bukusu?’
ribwooni kí	‘what potato?’
barasi kí	‘what horse?’
busa kí	‘what beer?’
soogooni kí	‘what market?’
rohaangaywa kí	‘what cave?’
mudoga kí	‘what car?’
vavugusó kí	‘what Bukusus?’
ng'ereng'ani kí	‘what star?’
kifooyo kí	‘what rabbit?’
ni msaara kí	‘it's what tree?’
ni kisaanda kí	‘it's what basket?’
ni vwoongo kí	‘it's what brain?’
ni marwa kí	‘it's what beer?’

Lack of the augment is especially noteworthy for EM, who virtually always includes the augment.

EM explains that the construction without augment and with tone dropping is associated with incredulity, e.g. “is there even a tree?”. There are also some tokens from EM which retain lexical tone on the noun as well as the augment.

ekékóó ¹ ndó kí	‘what monkey?’
amárwá ¹ kí	‘what alcohol?’
omwáá ¹ ná kí	‘what child?’
avávó ¹ gósó ¹ kí	‘what Bukusus?’
eng'é ¹ réng'ání ¹ kí	‘what star?’
amagáá ¹ ndá kí	‘what beans?’
íkí ¹ fóoyo kí	‘what rabbit?’

Data from ML (who generally drops the augment anyhow) are mixed in sometimes deleting tone and sometimes not.

mró ¹ góorí ¹ kí	‘what Logoori’
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mwáá ¹ ná kí	‘what child’
é ¹ ngókó kí	‘what chicken’
móyaayi kí	‘what boy’
zingoko kí	‘what chickens’
izogu kí ^o	‘which elephant’

This phenomenon was not observed in data from FA, BK, NM, but at the time the nuance of “incredulity” was not a known controlling factor.

The third H-deleting construction-specific rule is relational lowering. There is an N+N possessive construction lacking the associative agreement prefix, which has the special tonal property of deleting H tones of the head noun. This construction centers around an intrinsic relationship between the referent and the thing or person, for example ‘Marova’s father’, ‘owner of the house’. The head noun can be express family or social relations that are seen as permanent attributes, but not relations like ‘teacher, neighbor, thief’. The combination “owner+N” has no restrictions on what N can be, but extant data suggest that except for the ‘owner of’ combination, the complement in the construction is restricted to a (contextually) unique individual. Also note that the augment is lacking in this construction, even for EM who otherwise retains the augment.

amwáávo	amwaavo ródeji	‘Rodeji’s sibling’
baabá	baaba marova	‘Marova’s father’
	baaba mwíiha	‘father of the bride’
chíífo	chiifo marova	‘Marova’s chief’
góóku	gooku midéechi	‘Midechi’s grandmother’
isé	ise mwíiha	‘father of the bride’
koozá	kooza rodéjeji	‘Rodeji’s uncle’
mááma	maama mijiide	‘Mijide’s mother’
umkoongo	mkoongo marova	‘Marova’s boss’
omsááza	msaaza mijiide	‘husband of Mijide’
omwáámi	mwaami marova	‘Marova’s chief’
omwíiko	mwiiko marova	‘Marova’s relative’
omwíivori	mwiiivori marova	‘parent of marova’
nnya	nnya marova	‘mother of Marova’
	nnya ródejeji	‘Rodeji’s mother’
séenge	seenge midéechi	‘Midechi’s aunt’
omwééne	mween-amagáánda	‘owner of the beans’
	mweene mbwá	‘owner of dog’
	mweene moyéke	‘owner of sand’
	mweene rí ¹ gónyá	‘owner of banana’
	mween-ikiguuti	‘owner of a field’
	mween-ól ¹ lóngó	‘owner of the white clay’

This construction may result from two phonological reductions. The class 1 agreement morpheme in possessive constructions can be omitted.

baabó ¹ óvó	baabá wó ¹ óvó	‘your father’
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mgéni á ¹ váána	mgéni w-á ¹ váána	‘guest of children’
móróóndi a mung’oma	móróóndi wa mung’oma	‘follower of Mung’oma’
omwíí ¹ gízí ¹ á ¹ váána	omwíí ¹ gízí ¹ w-á ¹ váána	‘teacher of children’
mwíí ¹ gíz-íá ¹ váána	mwíí ¹ gízí ¹ w-á ¹ váána	‘teacher of children’

Forms like *mweene amagáánda* may be a further development from *mwééne amagáánda*.

There is a similar-looking appositive construction which combines two nouns, without affecting the tone of the first noun. In this construction, N1 functions as a title.

koozá ¹ ródééji	‘uncle Rodeji’
mkárají marova	‘Judge Marova’
séé ¹ ngé mídéécha	‘Aunt Mideecha’
omwáámi marova	‘chief Marova’

5. Augment tone

The augment occurs on common nouns, but is often deleted. See X for discussion of the vowel length and segmental facts of augment deletion. The point of this section is to investigate the tonal properties of the augment. The main conclusion is that the augment has a H tone, even though it is L-toned in citation forms (*omvondo*, *avaando* ‘person; people’).

The augment also does not have H when it is the object of a verb, even when there is fusion with the preceding vowel

aayinzill-aavaando	‘he has worked for the people’
adeeker-imbwa ^o	‘he cooked for the dog’
akaraangir-omvondo	‘he is frying for the person’
aking’ós-íkíbága	‘he is still pulling the cat’
akooŋ-ómwáámi	‘he is helping the chief’
anagoll-aavakáána	‘he ran for the girls’
arátúúngamij-isa	‘he will invert the clock’
avej-omwáana	‘he shaved the child’
yaakáá ¹ ngaráángír-éé ¹ ngókó	‘he fried the chicken for me’
arash-íí ¹ ngáánó	‘he will grind wheat’

In the last two examples, the H on the augment arises because of the noun’s tone pattern: the HH# pattern with a disyllabic stem and no CV noun class prefix, cf. *izi¹ngókó* ‘chickens’, *varagor-izi¹ngókó* ‘they will buy the chickens’.

5.1. Associative AGR-a

We start with N of N constructions which have the associative proclitic AGR-a. That morpheme is basically toneless, as we can see in N of N constructions where the possessor is a proper name without the augment. This hold regardless of the tone of the possessor or the head noun (though LS can assign a following stem H to the proclitic and further to the left).

mbáno gwa rodééji	'Rodeji's knife'
imbáno ja mihádya	'knives of mihadya'
umorí ¹ mí gwá ródééji	'farm of rodeji'
varóondi va mong'oma	'followers of Mung'oma'
eng'óó ¹ mbé yá víhééndá	'Vihenda's cow'
varógoori va marova	'Marova's Logooris'
ligóyáána lya ajinéda	'Ajineeda's confusion'
mónderé ¹ vá wá ónzére	'Onzere's driver'
ugutó ¹ gwá chóogo	'ear of Choogo'
ichákolyá cha mbóoni	'food of Mbooni'
gúúku wa marova	'grandmother of Marova'
umwíiko wa chaanzú	'relative of Chanzu'
umóchi gwa jumba	'tendon of Jumba'

An augment is optionally possible on a number of names (those that have the form of a common noun), in which case the fused syllable has H tone – this is because the augment has H tone.

mbá ¹ nó gw-ó ¹ ródééji	'Rodeji's knife'
umbáno gw-í ¹ mihádya	'knife of Mihadya'
imbá ¹ nó j-í ¹ mihádya	'knives of Mihadya'
umorí ¹ mí gw-ó ¹ ródééji	'farm of Rodeji'
imírí ¹ mí jó- ¹ ródééji	'farms of Rodeji'
amúó ¹ ngú gí- ¹ kídwaáro	'pumpkins of Kidwaro'
iryóóngú ryí- ¹ kídwaáro	'pumpkins of Kidwaro'
eng'óó ¹ mbé yí- ¹ víhééndá	'Vihenda's cow'
umóóndu w-íchaanzeywe	'person of Chanzeywe'

However, at least one speaker (ML) consistently has H on the associative before a proper name, indicating an alternative analysis with /-á-/, not /-a-/.

mwáána wá marova	'Marova's child'
móóndu wá marova	'Marova's person'
móóndu wá ¹ áróóro	'person of Alulu'
mwáána wá ¹ kísááto	'Kisato's child'
inyóó ¹ mbá yá ¹ ródééji	'house of rodeji'
inyóómba yá ¹ andiisi	'Andiisi's house'
inyóómba yá ¹ kíplagat	'Kiplagat's house'
zimóni zyá rodééji	'Rodeji's eyes'
ká ¹ dógá ¹ ká marova	'Marova's car-dim'

Common nouns usually have the augment, even speakers who regularly delete it in the citation form. The combination of merging the possessive proclitic with a common noun, then, is a H on that syllable, again regardless of the tone of the preceding or following noun.

misííbi j-ó ¹ mwáana	‘belts of child’
misíí ¹ bí j-í ¹ ímbwá	‘belts of dog’
misíí ¹ bí j-í ¹ zimbwá	‘belts of dogs’
ibáá ¹ kóórí y-ámahééngere	‘bowl of mahengere’
kwáá ¹ díká kw-í ¹ kijéého	‘breaking of a mirror’
omóó ¹ nyú gw-éé ¹ ngókó	‘chicken gravy’
aváána v-ó ¹ mwííha	‘children of the bride’
otwáána t-ó ¹ mwáami	‘children-dim of chief’
mkóno gw-í ¹ rítímu	‘handle of spear’
omotwí gw-íridóóndolizi	‘head of sparrow’
zinyúú ¹ mbá zy-á ¹ vóómbachi	‘houses of builders’
keréé ¹ ngé ch-í ¹ ngógónyi	‘leg of ant’
ligó ¹ dó ly-é ¹ kérééngé	‘skin of leg’
mkí ¹ rá gw-í ¹ bárasi	‘tail of horse’
hamágína g-í ¹ rigánisa	‘by the stones of the church’
ɪnáma y-é ¹ ng ¹ wééná	‘crocodile meat’
amátu g-í ¹ mitó	‘leaves of mito’
umbáno gw-ékerógoori	‘Logoori knife’
ovóséra v-ó ¹ mwííha	‘porridge of the bride’
omogóye g-ó ¹ mwáána	‘rope of child’
eng ¹ óó ¹ mbé y-á ¹ kávírí	‘second cow’
rigí ¹ ná ly-á ¹ kávírí	‘second stone’
hányóó ¹ mbá y-ómogeni	‘at the house of a guest’
misííbi j-ómoundu	‘belts of person’
kóríra kw-ízing ¹ oombe	‘crying of cows’
ovurímu vw-ééng ¹ oombe	‘grass for cow’
mkóno gw-íinyoundu	‘handle of hammer’
keréé ¹ ngé ch-ómkoongo	‘leg of boss’
mkí ¹ rá gw-ééng ¹ oombe	‘tail of cow’
mkí ¹ rá gw-írisyaamogoma	‘tail of gecko’

A possible exception is that when a CV noun class prefix is the target for assignment of the first H in HH and HH#-pattern nouns, the augment does not have H (except by LS) – otherwise one would predict H¹H at the beginning of the noun. There are insufficient examples to draw firm conclusions about the regularity of this sub-pattern.

vwóóya vw-ííki ¹ búúsi	‘cat fur’
izi ¹ imyá ¹ zizi ¹ ngókó	‘hundreds of chickens’
iráá ¹ njí r-íki ¹ ríimbóoto	‘color of flea’
morígódo mw-íki ¹ fwóóyo	‘in the skin of the rabbit’
márwá ¹ g-írí ¹ gómýá	‘banana beer’

The temporal-clause proclitic /rwá/, which is formally the class 11 associative prefix, has H tone, therefore we expect H tone whenever the augment fuses with the proclitic, and we cannot use this construction to discern the tone of the augment.

rwá ¹ márov-á ¹ káraá ¹ ngáa	‘when Marova is frying’
rwá ¹ éditoni arímí	‘when Editon plowed’
rwá kooz-ánweezáa	‘when uncle is drinking’
rw-ómugóyé ¹ gókádóká	‘when the rope snaps’
rw-á ¹ váándó vavárizi	‘when the people counted’
rw-ímbw-í ¹ jágóráa	‘when the dog is running’
rw-éé ¹ ng’óómbé yaakáá ¹ nzágá	‘when the cow scratched me’

5.2. *na* ‘with’

It is difficult to identify a specific answer for the proclitic /na/ ‘with’ that holds for most speakers, because there is considerable variation between speakers, and insufficient data on more obscure factors governing na+N constructions. For two speakers, ML and LI, *na* appears to be H toned and the augment is omitted, except in cl. 9, and there is no vowel fusion. ML occasionally manifests the augment in this construction.

LI

ná ¹ róchí	‘with a leg tendon’
ná ¹ mwáana	‘with a child’
ná m’rógoori	‘with a Logoori’
ná kíhotúlla	‘with an ant’
ná ridoongoro	‘with a necklace’
ná kíndu	‘with a thing’
ná ímú	‘with a seedling’

ML

ná ¹ lísó ¹ góma	‘with kale’
ná mógadi	‘with bread’
ná moundsu	‘with person’
ná ¹ mító	‘with mito’
ná ¹ rípeera	‘with guavas’
ná kí ¹ fóoyó	‘with rabbit’
ná vosera	‘with porridge’
n-ó ¹ rógága	‘with fence’
n-ími ¹ dógá	‘with cars’

One problem is that only proper names are expected to be totally augment-free, but there is a special non-clitic variant of ‘with’ before proper names, namely *níndi* ‘along with’ – the reason is that English ‘with’ may be an instrumental marker (‘he hit the child with a stick’) or a commitative marker (‘I spoke with Editon’). Proper names are unlikely to be used as instruments (#‘I hit the child with Editon’). It is unclear whether there is a morphosyntactic requirement to select *níndi*, or does it follow from semantics? At any rate, examples like ná¹ ródéjei ‘with Rodeji’, *na éditon* ‘with Editon’, *na marova* ‘with Marova’, ná¹ móréeera ‘with Mulera’ are not common, and are not entirely consistent.

We do find, for NM, that even though she ordinarily deletes the augment, it is preserved when merged with *na* and the result has H tone.

n-á ¹ mágáánda	‘with beans’
n-ómbano	‘with a knife’
n-í ¹ kíkóómbé	‘with a cup’
n-á ¹ máázi	‘with water’

Data from FA on the shape of /na/ is mixed to the point of being unresolvable. In augment-free contexts the proclitic’s tone varies as a function of the following tone.

ná yava	‘with these (2)’
ná yizi	‘with these (10)’
ná yigʊ	‘with this (3)’
na kúra	‘with that (7)’
ná zúra	‘with those (11)’
ná góra	‘with that (3)’

This speaker systematically retains the augment in this construction, where it bears H.

n-ízing'oombe	‘with cows’
n-é ¹ kédéte	‘with a finger’
n-á ¹ mávéere	‘with milk’
n-ómbano	‘with a knife’
n-ímivano	‘with knives’
n-ó ¹ vóhíngó	‘with a bow’

Speakers PM and RL, who tend to preserve the augment do attest L-toned [na] before proper names, and show merger of the proclitic plus augment as having H tone.

PM

ná chíífu	‘with chief’
ná sééngé	‘with aunt’
na marova	‘with Marova’
ná gú ¹ úgá	‘with grandfather’

n-ó ¹ mwíísokuru	‘with grandchild’
n-á ¹ várovóori	‘with Logooris’
n-ómusooreeri	‘with a boy’
n-ó ¹ mókóno	‘with a hand’
n-í ¹ myóógo	‘with cassavas’
n-ímiri	‘with roots’
n-ómuqera	‘with a river’
n-á ¹ míinu	‘with teeth’
n-í ¹ imbwá	‘with a dog’

RL

na báaba	‘with father’
na séenge	‘with aunt’
n-ómung'oodi	‘with a scribe’
n-á ¹ mádóshi	‘with mud’
n-í ¹ kísáánda	‘with a dipper’
n-ékeseero	‘with a hide’

Even BK, who maximally eliminates the augment, retains it when combined with /na/.

n-ó ¹ mwáana	‘with a child’
n-á ¹ váana	‘with children’
n-é ¹ gékóóndo	‘with a monkey’

Data from EM is more extensive: all evidence indicates that for him the proclitic is /na/ with L tone. This evidence includes the N+ki construction ‘what N?’, where the augment is regularly omitted, and when the preposition comes before *vori* ‘each’

na éditon	‘with Editon’
ná vóra	‘with that-14’
ná yívu	‘with this-14’
na marova	‘with Marova’
na ndara	‘with one (9)’
na ngó ¹ kó kí	‘with what chicken’
na dáákíka kí	‘with what minute’
na vó ¹ r-ííkítábo	‘with each book’

The augment retains H when merged with /na-/

n-ámbeere	‘with milk’
n-íríjũungo	‘with a rat’
n-óroguuchi	‘with dust’
n-ómogeni	‘with a guest’
n-íí ¹ swá	‘with termite’
n-ó ¹ rúbááng'a	‘with a panga’
n-ó ¹ mwóógo	‘with cassava’
n-í ¹ rídóóshi	‘with mud’
n-í ¹ índógónyi	‘with ant’
n-éké ¹ héregete	‘with measles’
n-á ¹ mákávati	‘with stalks’
n-ó ¹ vweérefo	‘with heaven’
n-ámaswa	‘with body hair’

5.3. *sa, sha, sya* ‘like’

The clitic *sa-*, *sha-*, *sya-* ‘like’ faces similar issue with consistently identifying the tone of its vowel, but most often in contexts without an augment, this prefix is toneless. An exception is that speaker ML attests *shá-* (ocasionally *shé-*) regardless of context.

shá ¹ báábá	‘like father’
shá ¹ kóózá	‘like uncle’
shá aríviza	‘like ariviza’
shá marova	‘like marova’
shé ¹ éditon	‘like Editon’
shá ¹ kégó	‘like animal enclosure’
shá ¹ mátímo	‘like spears’
shá ¹ mwóógo	‘like cassava’
shá cheeyo	‘like a broom’
shá mbano	‘like a knife’
shá migoye	‘like ropes’
shá móllo	‘like a fire’
shá vosera	‘like porridge’
shá ¹ mávóta	‘like petrol’
shé ¹ kirááto	‘like a shoe’
shé ¹ ríivé	‘like a hawk’
shé ¹ rójó	‘like a saucer’
shé móllo	‘like a fire’
shé vosera	‘like porridge’

Otherwise, speakers have H on the prefix in un-augmented contexts only via LA.

sá yícho	‘like that’
sá gú ¹ úgá	‘like grandfather’
sá gára	‘like that (6)’
sá éditon	‘like Editon’
sá jí ¹ né	‘like four (4)’
sa zí ¹ vágá	‘like three (10)’
sa móllo	‘like one (1)’
sa rodeeji	‘like Rodeji’
sa marova	‘like Marova’
s-iiyi	‘like this’
sa yivi	‘like these’
sa yavo	‘like those’

Before a noun, LI employs *sya* without augment, and any H is attributable to LS from the noun stem (including class prefix in double-H nouns).

syá má ¹ dásá	‘like mats’
syá zísyó	‘like shapers’
sya rí ¹ bwóoni	‘like a sweet potato’
sya monáákivara	‘like a non-Logoori’

syá ¹ módíríji	‘like a Tiriki’
sya kídúú ¹ kúúrá	‘like a chicken flea’
sya kígu	‘like a wasp’
syá mókári	‘like a woman’
sya modíigíro	‘like a crutch’
sya ikáá ¹ yóongo	‘like weed type’
syá kíbága	‘like a cat’
sya vósyi	‘like flour’
sya rivógaana	‘like a church’
sya ziparápaandi	‘like loquats’
sya kí ¹ syéégéri	‘like a sty’

EM, PM, FA and RL are relatively consistent in retaining the augment, which has H only via spreading from the stem (PM differs in using the segmental form *sya*).

s-ɪɲama	‘like meat’
s-ímbwá	‘like a dog’
sya eng'oombe	‘like a cow’
s-ámáazi	‘like water’
s-imigoye	‘like ropes’
sy-íliháraamba	‘like a wasp’
s-izízuviri	‘like a vulture’
sy-ámábwóoni	‘like potatoes’
s-ovosera	‘like porridge’
s-óvúóma	‘like a fork’
s-òmbano	‘like a knife’
s-izing'oombe	‘like cows’
sy-íkí ¹ fwóoyo	‘like a rabbit’
s-ámárwá	‘like alcohol’
s-ékékóómbé	‘like a cup’
sya Igirichi	‘like a bull’
sy-ámínó	‘like teeth’
syá ¹ ímbítí	‘like a hyena’
s-íngóróve	‘like a pig’
s-omó ¹ jóómbo	‘like an earthworm’
s-ínyóómba	‘like a house’
s-órójú	‘like a saucer’
s-imbano	‘like knives’
syá ikiguuti	‘like a field’
sy-ámavéere	‘like milk’
s-íkíságanyi	‘like a leaf bundle’
s-ómwíiha	‘like a bride’
sy-ivireenge	‘like legs’

5.4. Copula *ni-*

Data on the copula prefix *ni-* is particularly incomplete w.r.t. to multiple-speaker coverage. In data from ML, there is usually no augment and the prefix syllabis is underlyingly L.

ní már ¹ wá	‘it’s alcohol’
ni meeyo	‘it’s a broom’
ni váana	‘it’s children’
ni varoji	‘it’s witches’
ni m ¹ dó ¹ gá	‘it’s a car’
ni mgeni	‘it’s guest’
ni mgoye	‘it’s rope’
ni roju	‘it’s a saucer’
ni rwíga	‘it’s a horn’
ni vosera	‘it’s porridge’
ni vóchíma	‘it’s ugali’

Other speakers in the dataset (mainly BK, NM, EM) usually retain the augment, but the combination of *ni*+augment always leads to a L tone on the syllable.

n- ⁰ mbano	‘it’s a knife’
n-í ¹ ríhá ¹ ráámbá	‘it’s a wasp’
n-ekékóóndo	‘it’s a monkey’
n- ⁰ ró ¹ fóóngó	‘it’s a key’
n- ⁰ gó ¹ tó	‘it’s an ear’
n- ⁰ rwíga	‘it’s a horn’
n-ómótéénde	‘it’s a neighbor’
n-íryóóngu	‘it’s a pumpkin’
n-í ¹ rí ¹ kéré	‘it’s a frog’
n- ⁰ rovégo	‘it’s a memorial’
n-amá ¹ ká	‘it’s charcoal’
n-aváá ¹ kóózá	‘they are uncles’

As we have seen in the above examples, the augment is tonally H only in the N-of-N construction and the *na*-N ‘with’ construction; not after the copula and not after *sa*-‘like’.

6. Subject Tone

“Subject tone” refers to the phenomenon whereby words standing before the verb may receive a final H which spreads leftward, with no obvious origin of said H tone within the verb, examples being seen below.

ómbírí guraguunda	‘the body will rot’
ómsóórérí ayíínziráa	‘the boy is working’
vasóórээрí vaséémbellee	‘the boys weeded’
eng’oombé yaakarorwa	‘the cow was seen’

umórimí adeekáa	‘the farmer is cooking’
risháámgóma lyaakókóza	‘the gecko has died’
avágéni vaaká'gwá	‘the guests fell’
máásóorí yaakogota	‘the marijuana just disappeared’
maróva yaarí yéé'ng'iné	‘Marova was alone’
Mdavadí arikanyagora°	‘Mdavadi would run’
ikibígábígí kiivónichi	‘the motorcycle is broken’

Two main questions arise regarding this phenomenon. First, what words are targeted for this H assignment? Second, what triggers this H assignment, which leads to a partial answer that the left edge of the verb phrase triggers assignment, but sometimes (depending on verb form) a H tone is *not* assigned to the final vowel of the target.

6.1. Subject tone targets

Generally, whatever comes before the verb phrase receives a final H. However, an important condition on Subject Tone assignment is that the target must be toneless. If there is already a H in the target, no H is assigned. Contrast the following examples with those immediately above.

ajiné-d-akikeréé'tá	‘Ajineda is still bringing it’
amágá-raba gaakogunda	‘the bean-leaves have rotted’
mávodo yaakogwa	‘the basket fell’
mákídari kókizíllá	‘the bedroom is still cold’
ikitábo ch-avarógoori vaakaháándí'ká	‘the book which the Logooris wrote’
amabá-rabaande garyéénga	‘the loquats will ripen’
avarógoori varímí	‘the Logooris plowed’
aríviz-atya dáave	‘Ariviza won't fear’
aríviz-arikakosó'ná	‘Ariviza would point at you’

Although the noun *navizara* does not have a surface H tone, underlyingly there is H on /na/, as shown by the plural *vanávizara* ‘daughters-in-law’. The underlying H of this noun likewise blocks insertion of H.

navizara arikavákoone	‘daughter-in-law will help them’
navizar-arímiba	‘daughter-in-law will sing’

Presence of a H tone is a blocking factor only in terms of the final word in a pre-verbal sequence of words. The following examples show Subject tone being assigned to a nominal modifier before the verb, which then spreads through other modifiers and into the head noun.

amáhééngér-ámárórú gaakosóovwa	‘the bitter mahengere was just thrown out’
amáshámgóma vózá gakinwa	‘only the geckos are still drinking’
amáshámgóma máángó gaapágori	‘the quick geckos have now run away’
avásóóréerí vózá nívátaahólla	‘before only the boys hear’

avákó vǎllá maa vadóó ¹ kí	‘some brothers in law will arrive’
ávaándó váángó vaakáná ¹ górǎ	‘the quick people have run’
iríshámgó má llǎrá ryáángó vózǎ rigwí	‘only 1 quick gecko fell’

The presence of H in the initial noun has no effect on assignment of H to the pre-verbal word, that is, the toneless restriction is only about the initial target of H assignment.

avavó ¹ gósó ¹ vǎllá váángó vaakáná ¹ górǎ	‘some quick Bukusus have run’
avíísokor-aváángó váakánágóra	‘the quick grandchildren have now run’
avánákivara vǎllá varikákókooje	‘some non-Logooris will help us’

6.2. Triggers

Triggers of this rule include verbs, as seen above. Additionally, the rule applies before the crastinal future proclitics *ma*, *maa* and *ni* (*na*) which intervene between the subject and the subject-inflected verb.

avaandó maa vadééké	‘the people will cook’
avákó vǎllá maa vadóó ¹ kí	‘some brothers in law will arrive’
iríjíkóró maa ribóró ¹ kí	‘the crow will fly’
izíng’óómbé vózǎ maa zyane	‘only the cows will moo’
iríjíkóró na ribóró ¹ kí	‘the crow will fly’
marová n-aavarizi ^o	‘Marova will count’
avásóórérí ¹ ná víímbí	‘the boys will sing’
máásóórí n-iiigorizwi ^o	‘the marijuana will be sold’
ekeségésé na keyéé ¹ ré	‘the roof peak will sag’
amáhéngéré na gagórwi	‘that mahengere will be sold’

It also includes the copula clitic *ni*- before an adjective, noun or demonstrative.

ivóllí n-iindáhi	‘the bedroom is good’
ombánó n-omó ¹ dóófó	‘the knife is blunt’
marová n-umsáá ¹ kóró	‘Marova is old’
omumundó ni marova	‘the person is Marova’
marová n-umsooreri	‘Marova is the boy’
marová n-umsigu	‘Marova is an enemy’
omumundó ni korí marova	‘the person is like Marova’
eng’óómbé n-ɪpango	‘The cow is quick’
omósóórérí n-aatáari	‘The boy is dangerous’
músávadí ni sarasíni	‘Mudavadi is 30’
eng’óómbé ni yira	‘the cow is that’
eng’óómbé n-eembó ¹ hóóllé	‘the cow is untied’

Preceding examples of Subject Tone have involved main clause verb forms, but this is not a requirement for application of that rule. In the following examples of temporal and object relative clauses, we also observe assignment of H to the phrase preceding the VP.

rw-á ¹ váándó vaakáháá ¹ ngárízáná	‘when the people argued’
rw-éé ¹ ng’óómbé yaakáá ¹ nzágá	‘when the cow scratched me’
rw-á ¹ váándó ¹ vádééká	‘when the people will cook’
rw-á ¹ váándó vavega	‘when the people will shave’
rw-á ¹ váána vaará	‘when the people will spread’
rw-á ¹ váándó vavárízi	‘when the people counted’
rw-í ¹ zing’óómbé zyaayi	‘when the cows grazed’
rw-éé ¹ ng’óómbé ¹ yáání	‘when the cow mooded’
rw-éé ¹ ngóómb-é ¹ gónáa	‘when the cow is sleeping’
rw-á ¹ váándó varikakoonyá	‘when the people would help’
iziséendi zya Máróvá yaakéé ¹ ná	‘the money that Marova wanted’
kiguutí cha avarimí vaakáséé ¹ mbé ¹ llá	‘the field which the farmers weeded’
myúúmba ya Máróv-á ¹ taakéé ¹ yá	‘the house that Marova didn’t sweep’
umórími w-umóónd- átaakáchéé ¹ rízá	‘the farmer who the person did not greet’
ikííndo cha Máróv-á ¹ gá ¹ yá	‘the thing which Marova will prohibit’
ikííndo cha Maróv-á ¹ tágáyá	‘the thing which Marova will not prohibit’
imbúlrani ya váándó vataambákana	‘the agreement that the people will not refuse’
ikigóóti cha modávadí yaakorima	‘the field that Mudavadi plowed’
zing’óómbé zya marová akigorá	‘the cows that Marova is still buying’
igánisa y-aváándó vaakóú ¹ ngá	‘the church that the people joined’
ovoró vwa m’dávadí arikasyi	‘the millet that Mudavadi will grind’

In the case of a subject relative clause verb form, e.g. *umóóndo yaakákínwa* ‘the man who drank it’, the L noun *umóóndo* instead has penultimate H tone due to a specific rule assigning H to the penult (not the final) of a word in the relevant syntactic structure (see section X). Consequently, there are no toneless words before a subject-relative verb form.

There is a verbal form which can be preceded by nouns which does not trigger Subject tone assignment: the infinitive.

ní vvaangú marova korima	‘it’s easy for Marova to plow’
ní vodínyu avaandu korora	‘it’s easy for the people to see’

The formal details are discussed elsewhere, but in essence, an infinitive is not, at the upper levels of syntactic analysis, a verb, it is a noun.

Verb forms subdivide into two types, in terms of whether H is assigned to the pre-verbal word. In the majority of verb forms such as in *vasóóréri vaséémbellee* ‘the boys weeded’, a H appear before the verb, and also there is no H on the subject prefix. In some tenses, however, there is a left-edge H within the verb complex, for example *váádééka* ‘they cooked (remote)’ or *váádeeka* ‘they are in the state of having cooked’. It was noted in Q that LS is virtually obligatory in the remote past – the reason is that in most tenses there is latent H on the SP which is the source of Subject H, but in the remote past, perhaps the SP H spreads to the right rather than being detached.

Forms with left-edge H also include the completive variants of the past and hesternal perfective: *váákagwa* ‘they have now falled’, *váágwii* ‘they just fell’. No

additional H is assigned before such verb forms, instead H spreads directly from the verb into whatever comes before it.

ávaándó vá ¹ ákádéeka	‘the people have now cooked’
ávaándó váángó vá ¹ ákánágora	‘the quick people have now run’
módávadí yáakagora	‘Mudavadi has now bought’
avavó ¹ gósó ¹ vállá váángó vá ¹ ákánágora	‘some quick Bukusus have now run’
izing’óómbé zyáanáguri	‘the cows have now run’
aváándó váagwii	‘the people have now fallen’
avasóóréerí vááváriza	‘the boys counted’
ámágórógóró gáábúroka	‘the turkeys flew’
egééngéré yáágórizwa	‘the bell was sold’
ízíng’óómbé zyáágoná	‘the cows are sleepy’
ávásóóréerí vááríma	‘the boys are in the state of plowing’
omsóóréerí yááguriza	‘the boy is in the state of having sold’

A similar context, where there is spreading via LS and not independent H insertion, involves proclitics at the left edge of the verb’s phrase which intervene between the verb and the subject, where the subject prefix has a H tone – this arises in the consecutive and conditional forms of verbs, and in the “before” tense.

ezóóróorí n-ítaagwa	‘before the water pipe falls’
avásóóréerí vózá ní vátaahólla	‘before only the boys hear’
zing’óómbé zí ¹ táaryá	‘before the cows eat’
ezóóróorí n-ítaagwa	‘before the water pipe falls’
amáhéngéré ní gátaaháka	‘before the mahengere scorches’
vanávizara váángó ní vátaarakuora	‘before quick daughters in law release’
márová n-áágwa	‘if Marova falls’
zíng’óómbé ní zyáayi	‘if the cows grazed’
márová ní yé ¹ éyí	‘if Marova swept’
marová n-árivéézegera	‘if he will belch’
zíng’óómbé ní zyáayi	‘if the cows grazed’
avárímí ní vádeechi	‘if the farmers have cooked’
m-ávaánd-íívá ¹ dééká	‘then the people cooked’
m-éémbédéédó n-ááruka	‘then Embededo vomited’
m-ámáshámógómá ní gákikamata	‘then the geckos caught it’
m-avaró ¹ góorí vózá ní vá ¹ jíba	‘then only the Logooris responded’
m-ámáhééngéré ní gá ¹ déékwá	‘then the mahengere was cooked’

The contexts for Subject H Tone can then be reduced to the following generalizations. There is, generally, a VP-initial H tone. That H may appear within the verb in some specific cases, specifically root-initially in the remote past and on the subject prefix in certain subordinate clause forms or in completive verb forms (alternatively, in the remote it spreads to the right). If it is not specifically assigned to the verb, it may link to the final

vowel of the word before the VP, as long as that word is toneless. Once linked, it can spread further to the left by LS. In the case where the verb construction does not assign that H within the verb, and linking to the final syllable of the word to the left does not apply, that VP-edge H tone simply disappears, as seen in the previous section.

In case the pre-VP word is H-final and the verb has a left-edge H (completive form, repote past or habitual), a downstep naturally develops, given the combination of adjacent Hs.

moramwá ¹ yáadóuchi	‘brother in law has now arrived’
koozá ¹ yá ¹ aryíi	‘uncle has now eaten’
gʊʊgá ¹ yáachéerizi	‘grandfather has now greeted’
ofisá ¹ yáasuoviri	‘the officer has now believed’
amá ¹ gómyá ¹ gáagurizwi	‘the bananas have now been sold’
amá ¹ gómyá ¹ gá ¹ akávógorwa	‘the bananas have now been taken’
iví ¹ foóyó vyá ¹ akágwá mwííríina	‘the rabbits have now fallen in the hole’
ikijá ¹ mányó ¹ cháá ¹ kákóó ¹ ng-íimbwá	‘the squirrel has now chased the dog’
moramwá ¹ yá ¹ akáté ¹ m-óm ¹ sáára	‘brother in law has now chopped the tree’
gʊʊgá ¹ yááhaambika	‘grandfather is drunk’
avavógusó ¹ váárema	‘the Bukusus are crippled’
ofisá ¹ yáároha	‘the officer is tired’
amá ¹ gómyá ¹ gááguunda	‘the bananas are rotten’
oroháángaywá ¹ rwáaráámbrira	‘the cave collapsed’
om ¹ bísandó ¹ yááírira	‘the orphan cried’
moramwá ¹ yáágwa	‘brother in law fell’
gʊʊgá ¹ yáámóroma	‘grandfather spoke’